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**THESIS**

**LEARNING STYLES OF GOVERNMENT  
AND INDUSTRY NEGOTIATORS:  
AN ANALYSIS**

by

**John Alan Hayward**

**June 1994**

**Principal Advisor:**

**David V. Lamm**

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Learning Styles of Government  
and Industry Negotiators:  
An Analysis

by

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Lieutenant Commander, Supply Corps, United States Navy  
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Submitted in partial fulfillment  
of the requirements for the degree of

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from the

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## ABSTRACT

This research sought to identify and compare the predominant learning styles of Government versus Industry negotiators using the Kolb Learning Style Inventory. Additionally it sought to identify and analyze differences and similarities between Government Procuring Contracting Officers (PCOs) and Administrative Contracting Officers (ACOs), Government versus Industry negotiators, and by variances due to educational background. The Kolb Learning Style Inventory is a self descriptive questionnaire designed to measure individual emphasis on four learning abilities: concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE). A total of 473 Government and 153 Industry contract negotiators responded to a survey which was designed to allow analysis based on age, education, experience, and negotiation authority. Results for Government and Industry were presented separately, then compared. Based upon these analyses, it was concluded that Government PCOs are Convergers (favor AC and AE), ACOs Accommodators (favor CE and AE), and Industry negotiators are Assimilators (favor AC and RO). As education, experience, age, and negotiation authority increase so do preferences for active (AE) and abstract (AC) learning traits.

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## **I. INTRODUCTION**

### **A. OBJECTIVES OF THE RESEARCH**

The art of negotiation is very complex and dynamic. Procurement by negotiation is an attempt to arrive at an agreement through bargaining on the terms, conditions, and requirements for goods and services. Delivery schedule, performance specifications, quantity, quality, and price are just a few of the possible negotiable items.

The effective negotiator must possess many skills. He must be a leader, have good interpersonal relation skills, be able to exercise judgment, tact, common sense, and patience. Negotiators pit their skills against others. Although the goal of negotiations is for both parties to win, frequently negotiators believe they lose if they fail to achieve their predetermined negotiation objectives. Considering the many factors that can influence negotiator effectiveness, most people agree that the way people learn will ultimately determine the effectiveness of the negotiator. The education, selection, preparedness, and effectiveness of contract negotiators are critical for both Government and Industry. Considering the many disciplines that an effective contract negotiator must master, an examination of how negotiators learn, might prove beneficial in enhancing professional

development. Accordingly, the objective of this research is to explore the predominant Learning Styles (using the Kolb Learning Styles Inventory (Kolb, 1976)) that can be identified with the negotiations process. With this information the researcher will examine many different aspects of the negotiators' predominant Learning Style and the impact on professional development.

First, the research examined predominant Learning Styles among Government employees. In particular the research examined the Procuring Contracting Officer (PCO) versus the Administrative Contracting Officer (ACO). Second, the research examined predominant Learning Styles among industry negotiators. Finally, the research examined Learning Style differences between Government and Industry contract negotiators. It is particularly important to compare these two groups to obtain a measurement of the differences in negotiator Learning Styles. Insight into these two groups may prove beneficial in establishing methods used to educate, train, and groom contract negotiators.

## **B. GENERAL DESCRIPTION OF THE RESEARCH**

This research attempted to measure the different Learning Styles of private industry contract negotiators and Government contract negotiators from the Department of Defense. The research used only one method of measuring learning styles. It

sought to identify Learning Styles using only the Kolb Learning Style Inventory (Kolb, 1976).

Information was solicited from negotiators throughout DOD and private industry. Department of Defense data were obtained primarily from Government Civilian occupational series 1102 (GS1102) represented by the following types of jobs: e.g., Administrative Contracting Officer (ACO), Procuring Contracting Officer (PCO), and Terminations Contracting Officer (TCO). Responses from private industry negotiators were limited to those who sell products through negotiation to DOD.

The Kolb Learning Style Inventory (LSI) is a self-descriptive questionnaire designed to measure individual emphasis on four learning abilities: concrete experience, reflective observation, abstract conceptualization, and active experimentation. The collected data were correlated from the scores of the four learning abilities to find the predominant learning style that negotiators model. Kolb's four learning styles are: accommodator (gets things done, takes risks, leads); diverger (has imagination, understands people, can brainstorm); converger (problem solver, defines problems, reasons deductively); and assimilator (plans, defines problems, develops theories).

### **C. THE RESEARCH QUESTIONS**

#### **Primary Research Question:**

1. What are the predominant Learning Styles of Government contract negotiators and Industry contract negotiators?

#### **Subsidiary Research Questions:**

1. What are the essential differences and similarities that can be identified in comparing Government versus Industry negotiators using the Learning Styles Inventory (LSI) theory?
2. What are the essential differences and similarities that can be identified in comparing Government Procuring Contracting Officers (PCOs) versus Government Administrative Contracting Officers (ACOs) using the Learning Style Inventory (LSI)?
3. What are the essential differences and similarities that can be identified due to educational background in comparing contract negotiators using the Learning Styles Inventory (LSI)?
4. What are the essential differences and similarities that can be identified in comparing Military Contracting Officers

versus Government Civil Service 1102 series contract negotiators using the Learning Style Inventory?

#### **D. LIMITATIONS OF THE RESEARCH**

The confines of the research were limited by the enormous quantity of possible contributors to the Kolb Learning Style inventory. There are thousands of Government Service 1102 series personnel that negotiate and can contribute to the survey throughout the Federal Government. Additionally, there are multitudes of businesses that deal with the Federal Government.

This research does not address the psychology, behavior, or emotions of negotiators (Nierenberg, 1986), nor does it address major bargaining research paradigms, criteria of bargaining effectiveness, or factors affecting bargaining effectiveness (Rubin/Brown, 1975). The research did not attempt to measure the outcomes of negotiations based upon Learning Styles. Additionally it focused only on industry negotiators that deal exclusively with Government contracts for goods and services. It does not address industry negotiators that deal with industry, nor does it consider the Learning Styles of other types of negotiators, e.g., other Federal Government, State, Local and labor negotiators. Finally, this research does not attempt to correlate learning styles with negotiation effectiveness since this research is



not measuring or attempting to identify the most effective negotiators

## **E. ORGANIZATION OF THE RESEARCH**

Chapter II discusses the theoretical structure of the research and presents a detailed explanation of the Kolb Learning Style Inventory.

Chapter III describes the basic methodology and design of the research. It includes a discussion regarding the demographics of the survey, the number of surveys used, and the response totals.

Chapter IV presents and analyzes the data received from Government survey respondents while Chapter V presents and analyzes the data received from Industry survey respondents.

Chapter VI compares the learning styles of Government and Industry negotiators.

Chapter VII presents conclusions formulated from the research and makes recommendations concerning use of the research. This chapter also answers the research questions and makes suggestions for further research.

## **II. THEORETICAL STRUCTURE**

### **A. INTRODUCTION**

This chapter will present the theoretical structure that was used to conduct the research and analysis. It is designed to present the reader with a thorough understanding of the concepts and definitions of the Kolb Learning Style Inventory. It will describe the characteristics of the Kolb learning process and problem solving model and will then describe how this information is used to identify individual learning styles.

### **B. CONCEPTUAL BASIS OF THE KOLB LEARNING STYLE INVENTORY**

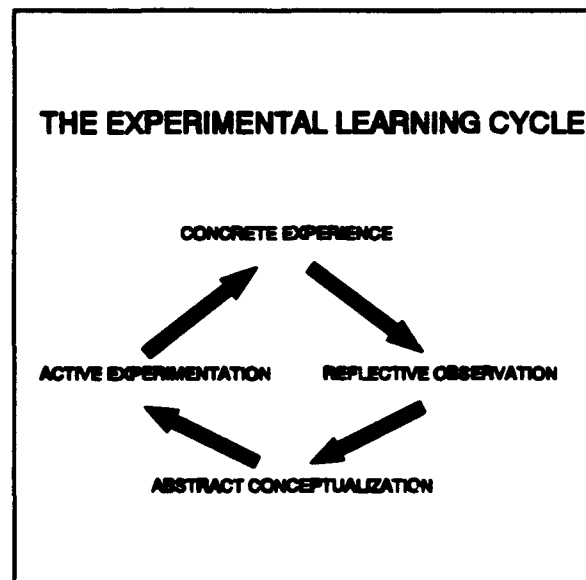
The theoretical model used for this study is based on David Kolb's experimental learning theory and his Learning Style Inventory (Kolb, 1976). The learning theory defines the learning processes so that contrasts in an individual's learning style and paralleling learning milieu can be perceived. Kolb created a logical learning model founded on the Jungian (Jung, 1923) styles and types of learning which asserts that the concept of adult development is characterized by higher levels of integration and expression of non-dominant modes of dealing with the world (Kolb, 1976:2).

The theory Kolb developed is called "experimental learning." The experimental theory approach places great

emphasis on the role of experience in the learning process. From experience it can be understood how people generate the concepts, rules, and principles that determine behavior in new environments. The experimental learning model conceived the learning process as a four-stage cycle which describes how experience is translated into concepts which in turn are used as guides in choosing new experiences (Kolb, 1976:3).

### C. THE FOUR LEARNING STAGES

Kolb's four stage experimental learning cycle is illustrated in Figure 1. In the four stage-cycle the individual learns from immediate concrete experiences (Concrete Experience (CE)), which form the basis for observations and reflections (Reflective Observation (RO)), which in turn leads to the formulation of generalizations, theory, and abstract concepts (Abstract Conceptualization (AC)), from which new implications for action are concluded (Active Experimentation (AE)) (Kolb, 1976:3). The hypotheses that are formulated in the Active Experimentation stage serve as guides in acting to create new



**Figure 1.** THE EXPERIMENTAL LEARNING CYCLE (KOLB, 1976)

experiences as the cycle starts anew. The different learning stages are described as follows:

**1. Concrete Experience (CE)**

This stage emphasizes personal involvement. One tends to rely on feelings rather than on a systematic approach to problems and situations, and on one's ability to be open-minded and adaptable to change. Learning in this stage is characterized by learning from specific experiences, relating to people, and being sensitive to feelings and people. (Stice, 1987)

**2. Reflective Observation (RO)**

In this stage, people examine ideas from different points of view. They rely on patience, objectivity, and careful judgment, but do not necessarily take any action. They rely on their own thoughts and feelings to form opinions. Learning by watching and listening characterized by careful observation before making a judgment, viewing from different perspectives, and looking for the meaning of things (Stice, 1987)

**3. Abstract Conceptualization (AC)**

Learning in this stage involves using logic and ideas, rather than feelings, to understand problems and situations. Reliance is on systematic planning and development theories and ideas to solve problems. "Thinkers" learn by logical analysis of ideas, systematic planning, and acting on intellectual understanding of a situation (Stice, 1987)

**4. Active Experimentation (AE)**

In this stage learners actively experiment with influencing situations. They have a practical approach and a concern for what really works. They value getting things done and seeing the results. This kind of learner has an ability to get things done, a willingness to take risks, and can influence people and events through action (Stice, 1987)

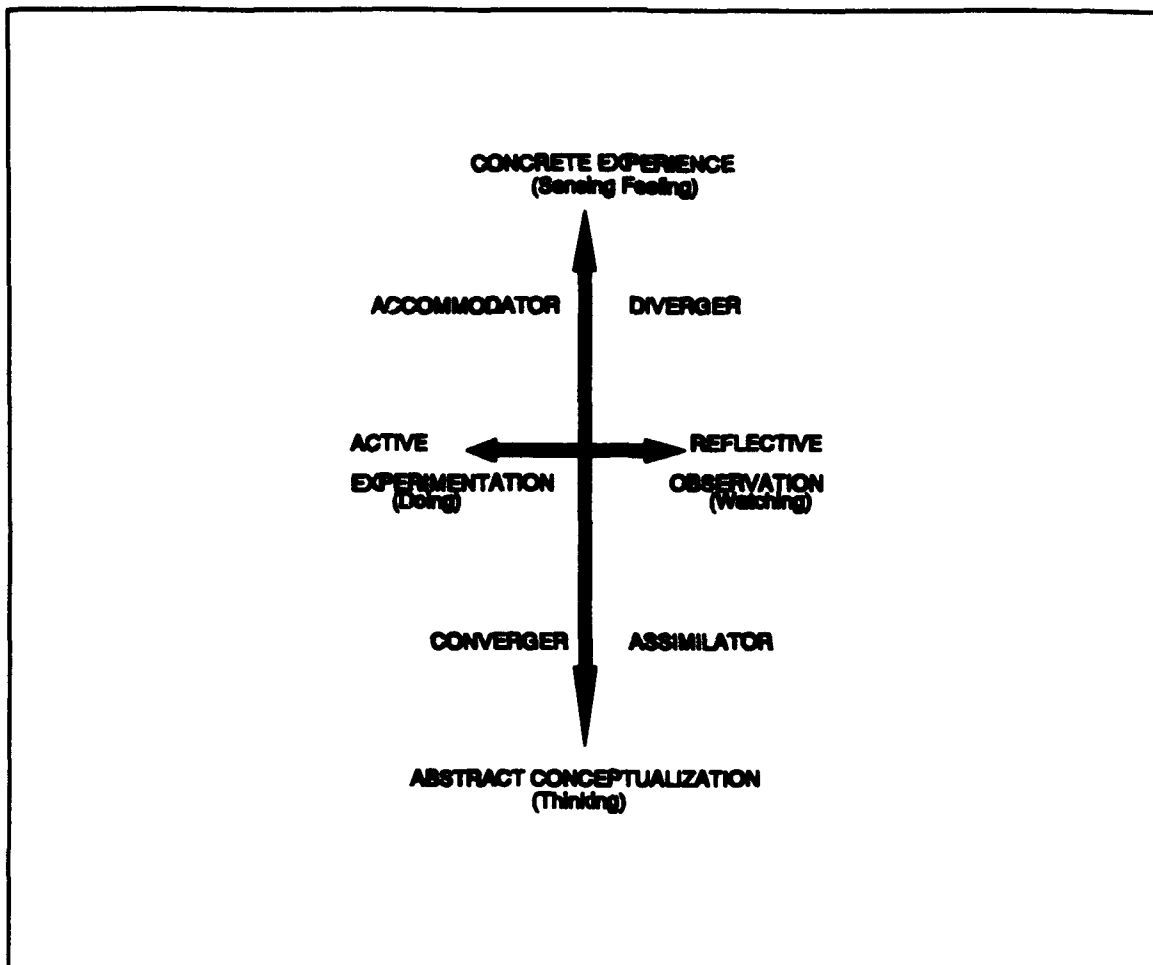
Learning styles of individuals have characteristics of all four of the Learning stages. It is highly unlikely to describe an individual's style as exclusively limited to one. Kolb

recognizes within the four stages that there are two sets of polar opposites. These dialectic dimensions of the learning process are known as the concrete/abstract (AC-CE) and the active/reflective (AE-RO) dimensions.

The Kolb model includes the two dimensions of perception (how we take things in) and processing (how we make things a part of us). The perception function can be represented as a line with the words concrete and abstract at opposite ends. Some people prefer to perceive information concretely through their senses (e.g. by seeing, hearing, or touching something). Others perceive abstractly through ideas, concepts or symbols. The manner in which any one individual perceives new information lies somewhere on this continuum. Processing new information can be performed actively on one extreme, or reflectively on the other. Again, we can imagine a line representing a continuum with active and reflective at opposite ends. Based on these two continua, Kolb identified four different types of learners as represented by the four quadrants in Figure 2. (Harb/Durrant/Terry, 1993)

Learning Style is represented by the differences in learning preference between the polar opposites of the concrete/abstract AC-CE and the active/reflective AE-RO. Because an individual's learning style is a combination of the four modes and because they are polar opposites, learners tend to develop more skill in one of the four learning style quadrants. In Figure 2 each of the quadrants is labeled with the learning style that best describes the quadrant.

Learners that favor both concrete experience and reflective observation, are identified as divergers. Learners that favor reflective observation and abstract conceptualization are labeled assimilators. Learners that favor abstract conceptualization and active experimentation



**Figure 2.** LEARNING STYLE QUADRANTS (KOLB, 1976)

are identified as convergers. Learners that favor active experimentation and concrete experience are labeled accommodators.

#### **D. IDENTIFYING LEARNING STYLES**

Learning styles are determined by use of Kolb's Learning Style Inventory (LSI) (Kolb '1976). The LSI is a simple, self-description inventory that is designed to measure an individual's strengths and weaknesses as a learner in the four

**Table 1. LEARNING STYLE INVENTORY**

CE	RO	AC	AE
1. Discriminating	Tentative	Involved	Practical
2. Receptive	Relevant	Analytical	Impartial
3. Feeling	Watching	Thinking	Doing
4. Accepting	Risk-taker	Evaluative	Aware
5. Intuitive	Productive	Logical	Questioning
6. Abstract	Observing	Concrete	Active
7. Present-oriented	Reflecting	Future-oriented	Pragmatic
8. Experienced	Observation	Conceptualization	Experimentation
9. Intense	Reserved	Rational	Responsible

stages of the learning process. The LSI measures emphasis on the four learning stages by asking the respondent to rank order nine sets of four words according to the degree to which these words characterize and describe their learning style. Each of the four columns represent one of the four learning stages as illustrated above.

The Learning Style Inventory requires that each of the nine rows of words be rank ordered from four(4) to one(1). Four (4) should be assigned to the word/description that best characterizes your learning style and is most like you. Three (3) should be assigned to the word/description that is second (next best) in characterizing your learning style. Two (2) should be assigned to the word/description which is third most like your learning style characteristic. Finally, assign a one (1) to the word/description that is least like you. Each word

in the four word set requires a different number. Ties are not allowed.

Scores for each of the four Learning Stages are computed by adding the rank numbers from particular rows in each of the four learning stages as follows:

$$\text{CONCRETE EXPERIENCE} = 2 + 3 + 4 + 5 + 7 + 8$$

$$\text{REFLECTIVE OBSERVATION} = 1 + 3 + 6 + 7 + 8 + 9$$

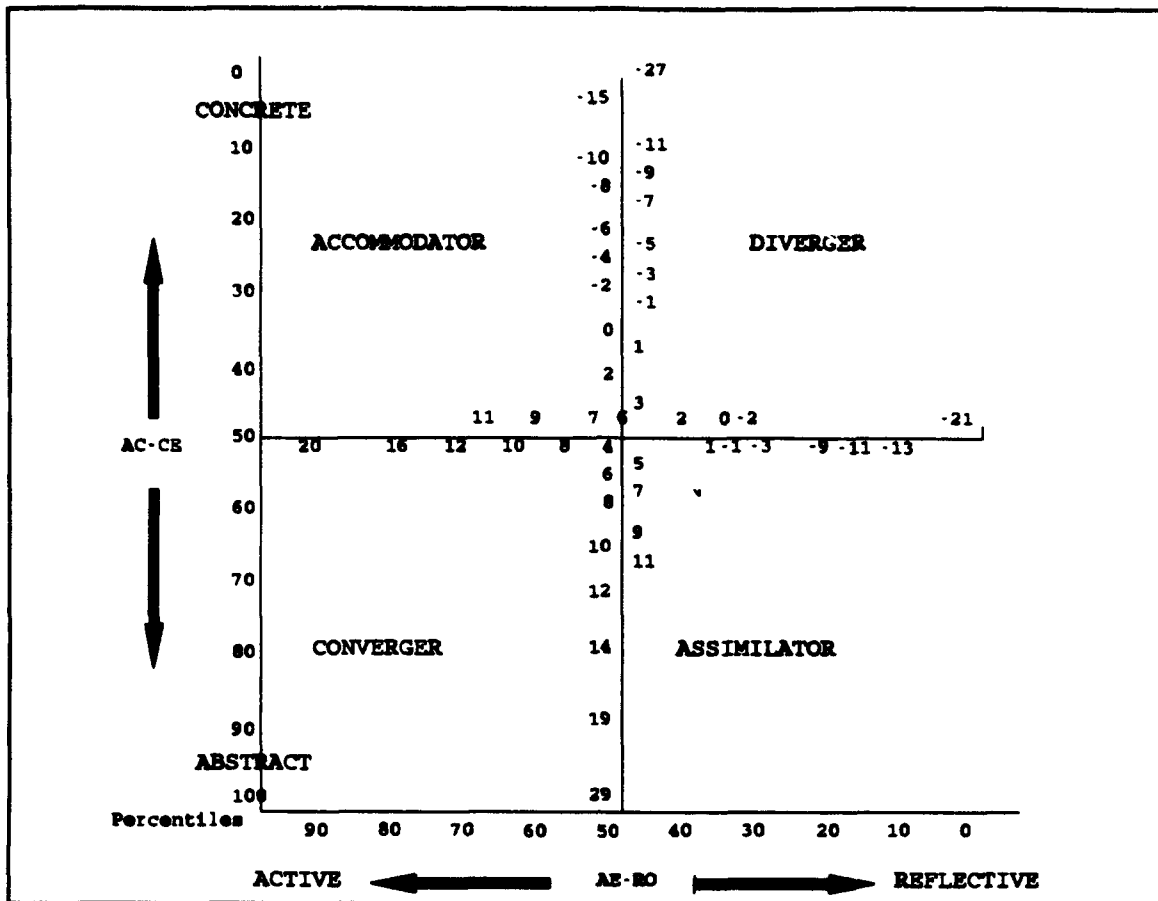
$$\text{ABSTRACT CONCEPTUALIZATION} = 2 + 3 + 4 + 5 + 8 + 9$$

$$\text{ACTIVE EXPERIMENTATION} = 1 + 3 + 6 + 7 + 8 + 9$$

In addition, these four scores are used to determine two combined scores. AC minus CE (AC-CE) indicates the extent to which the learner emphasizes abstractness (positive number) over concreteness (negative number). AE minus RO (AE-RO) displays the extent to which the learner emphasizes active experimentation (positive number) over reflection (negative number).

Kolb developed a set of coordinates on which an individual's learning style can be plotted as one point (Kolb, 1976:3). The x-axis represents the active versus the reflective dimension. The Y-axis represents the concrete versus abstract dimension. The single data point that results ( $Y = \text{AC-CE}$  and  $X = \text{AE-RO}$ ) is used to identify the predominant Learning Style of an individual. The Learning Style Grid in Figure 3 has raw scores on the X-axis and Y-axis and percentile scores based on the normative group on the sides (Kolb '76). The mean of any group being studied is located at





**Figure 3.** LSI GRID (Kolb, 1976)

the 50 percentile point for both AE-RO and AC-CE learning dimensions.

## **E. LEARNING STYLE CHARACTERISTICS**

The following is a summary of the characteristics of the Converger, the Diverger, the Assimilator, and the Accommodator learning Styles.

### **1. Divergers**

Individuals with these characteristics fall into the upper right-hand quadrant of the LSI Grid. Their learning

strengths are Concrete Experience (CE) and Reflective Observation (RO). The Diverger's greatest strength abides in his ability to solve problems, make decisions, apply ideas practically, use imagination, and understand people.

His/her greatest strength lies in his imaginative ability. He/she excels in the ability to view concrete situations from many perspectives and to organize many relationships into meaningful "gestalt". We call a person who has this style a "Diverger" because he/she performs better in situations (such as "brainstorming" idea sessions) that call for generation of ideas. Divergers are interested in people and tend to be imaginative and emotional. They have broad cultural interests and tend to specialize in the arts. Our research shows that this style is characteristic of persons with humanities and liberal arts backgrounds. Counselors, organizational development consultants, and personnel managers often have this learning style. (Kolb, 1976:5)

## **2. Assimilators**

Individuals with these characteristics fall into the lower right-hand quadrant of the LSI Grid. Their dominant learning abilities are Reflective Observation (RO) and Abstract Conceptualization (AC). They excel at understanding a multitude of data and logically organizing it. The logical soundness of ideas is more important than practical value.

His/her greatest strength lies in his ability to create theoretical models. He/she excels in inductive reasoning, in assimilating disparate observations into an integrated explanation (Grochow, 1973). He like the Converger, is less interested in people and more concerned with the practical use of theories. For him/her it is more important that the theory be logically sound and precise. As a result, this learning style is more characteristic of the basic sciences and mathematics rather than the applied sciences. In organizations this learning style is found most often in the research and planning departments (Kolb, 1976; Strasmore, 1973) (Kolb, 1976:6)

### **3. Convergers**

This type of learner is located in the lower left quadrant of the LSI Grid. Convergers are characterized by the dominant learning abilities of Abstract Conceptualization (AC) and Active Experimentation (AE). They prefer the sensible employment of concepts and ideologies, do well on conventional tests, use deductive reasoning, and are good at defining and solving problems and making decisions. They prefer to deal with complicated tasks and difficulties rather than with social and interpersonal issues.

His/her greatest strength lies in the practical application of ideas. A person with this style seems to do best in conventional intelligence tests, where there is a single correct answer or solution to a question or problem (Torrealba, 1972). His/her knowledge is organized in such a way that, through hypothetical-deductive reasoning, he/she can focus it on specific problems. Liam Hudson's (1966) research in this style of learning (using measures other than the LSI) shows that Convergers are relatively unemotional, preferring to deal with things rather than people. They tend to have narrow interests, and choose to specialize in the physical sciences. Our research shows that this learning style is characteristic of many engineers. (Kolb, 1976:5)

### **4. Accommodators**

Individuals with this learning style fall into the upper left-hand quadrant of the LSI Grid. Their learning preferences emphasize the Active Experimentation (AE) and the Concrete Experience (CE) learning abilities. They adjust well to immediate circumstances, get things accomplished, act on feelings rather than logical analysis, take chances, and learn predominately from hands on experience.

His/her greatest strength lies in doing things, in carrying out plans and experiments and involving him/herself in new experiences. He/she tends to be more of a risk-taker than people with the other three learning styles. We call someone with this style an "Accommodator" because he tends to excel in those circumstances where he must adapt himself to specific immediate circumstances. In situations where theory or plans do not fit the facts he will most likely discard the plan or theory. He tends to solve problems in an intuitive trial and error manner (Grochhow, 1973), relying heavily on other people for information rather than on his own analytic ability (Stabell, 1973). The Accommodator is at ease with people but is sometimes seen as impatient and "pushy." His educational background is often in technical or practical fields such as business. In organizations people with this learning style are found in "action-oriented" jobs, often in marketing or sales. (Kolb, 1976:6)

#### **F. SUMMARY**

Successful contract negotiators are able to master and adjust to the numerous changes in the acquisition arena. The ability of an organization to succeed in the dynamic contracting environment requires that the organization be able to train negotiators from past successes and failures. To train negotiators successfully, organizations need to be able to identify how their personnel learn. This chapter presented a model concerning how individuals learn. The LSI survey could be used to better enhance organizational training methods and approaches.

This chapter provided the conceptual basis for the Kolb Learning Style Inventory. It described experimental learning theory and discussed the four-stage experimental learning-cycle. The four stages of the cycle were identified as

concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE).

Next, the chapter discussed the Learning Style Inventory. The inventory is a nine-item self description questionnaire. Each item contains four words which the respondent is to rank order in the way that best describes his/her learning style. One word in each item corresponds to one of the four learning stages/modes.

Finally, the four learning styles measured by the LSI were described. The four predominant learning styles measured by Kolb's LSI are the accommodator, the diverger, the assimilator, and the converger. The LSI measures the learner's relative emphasis on the four learning abilities: (CE); (RO); (AC); and (AE). Additionally, two combination scores are obtained which indicate the extent to which an individual emphasizes abstractness over concreteness (AC-CE) and action over reflection (AE-RO). These two scores are plotted on the LSI Grid to determine the predominant learning style.

The next chapter will discuss, in detail, the design of the research experiment to measure learning styles of Government and industry contract negotiators.

### **III. THE SURVEY & METHODOLOGY**

#### **A. INTRODUCTION**

The previous chapter provided a detailed review of the Kolb Learning Style Inventory. It discussed the conceptual basis of the Learning Style Inventory and defined the four learning stages of Concrete Experience (CE), Reflective Observation (RO), Abstract Conceptualization (AC), and Active Experimentation (AE) as a continuing learning cycle. Learning styles were then determined by plotting the differences in learning preferences between the polar opposites of concrete/abstract AC-CE and active/reflective AE-RO. Scores for prevalent learning preferences are obtained by utilizing the Kolb Learning Style Inventory which requires the respondent to rank nine sets of four words according to the degree to which they emulate their learning style.

The survey used to obtain the data for this study was designed to be simple, short, and easy to understand. Multiple choice questions were used vice free-answer, or open ended questions in obtaining information regarding demographics to avoid difficulties in interpreting responses. This allowed for clarity and similar meaning for both Government and industry respondents. It also helped prevent bias in question framing.

The survey was sent to Government and industry contract negotiators without a detailed explanation of the Kolb Learning Style Inventory. Although precise guidance and direction were provided regarding whom should fill out the survey, and how it should be filled out, an assumption must be made that the responses were only received from the desired clientele. The letter of introduction provided only a limited explanation of the Kolb Learning Style Inventory. It did not provide information on how to score the LSI test to determine the individual's predominant Learning Style. This was done to prevent respondents from attempting to answer the survey to obtain the learning style that they believe best described them. Although the directions describe the desired response, some respondents incorrectly interpreted the survey requirements. These surveys were not used as were surveys that were incomplete.

#### **B. DEMOGRAPHICS**

To allow for adequate analysis of the Learning Styles of Government and industry contract negotiators, several additional questions were requested of survey respondents. Additionally because there are differences in job descriptions in Government and industry negotiators, two separate surveys were prepared. Both surveys contained the Kolb LSI word test and requested information regarding age, sex, education, years of contracting experience, years of negotiation experience,

negotiation training, and information regarding the value of contracting authority.

The Government survey requested the respondents to identify their position as either a Procuring Contracting Officer (PCO), Administrative Contracting Officer (ACO), or a Terminations Contracting Officer (TCO). Additionally, respondents were asked if they were a Government Series GS/GM-1102 Civil Servant or Military Officer. These questions were asked to facilitate additional comparisons between Government contract negotiators.

The industry negotiators were asked the title of their position for information purposes only. All other questions were similar to the Government questionnaire.

The first common question concerned age. Survey respondents were asked to circle the appropriate age: 20-30, 31-40, 41-50, 51-60, and 61+. This allowed for the analysis to comment on differences in learning styles between different age groups of Government and industry negotiators. It allowed the research to make observations regarding the predominant ages of both Government and industry negotiators.

To make determinations regarding prevalent learning styles of gender, respondents were requested to indicate whether they were male or female. This facilitated multiple comparisons between Government negotiators, industry negotiators, and Government versus industry.



Education level data allowed for numerous comparisons of learning styles. Survey respondents were asked to circle the appropriate level of education as follows: High School, Bachelors Degree, Bachelors Degree with effort towards a Masters, Masters Degree, and Doctorate Degree. Observations have been made regarding changes in learning style as educational levels increase.

The survey requested respondents to answer questions regarding the length of both contracting and negotiation experience. Survey respondents were asked to circle the appropriate number of years of contracting experience: 0-2, 3-5, 6-10, 11-20, and 21+. Survey respondents were also requested to indicate negotiation experience by circling the appropriate choice: 0-1, 2-4, 5-8, 9-12, 13-20, 21+. Numerous personnel have contracting experience but limited negotiation experience. These questions allowed for comparisons in experience for both contracting and negotiation experience and for comparisons between the two.

The value of contractual negotiation authority was requested. This allowed for comparison between levels of responsibility. Observations regarding learning styles of negotiators with unlimited negotiation experience and those with limited negotiation authority were possible.

Survey respondents were also requested to indicate the type of negotiation training they had attended/experienced. Finally, to determine if there was a difference between

negotiators who had obtained Certified Professional Contracts Manager (CPCM) credentials and those who had not, CPCMs were asked to indicate their qualification.

### **C. THE SELECTION AND RESPONSE OF PARTICIPANTS**

Surveys were sent to sixty-eight (68) Government activities. Thirty of the activities belonged to the Defense Contract Management Command (DCMC). They were included to ensure an adequate representation of Administrative Contracting Officers. A total of 560 surveys were mailed. Because the number of contract negotiators at each activity was unknown, the number of surveys sent to each activity varied based upon this researcher's knowledge of the activity. A total of 538 survey responses were returned. Of the responses, 473 were complete and applicable. Sixty-five (65) of the surveys were incomplete in one form or another. The most prevalent reasons for rejection were because the respondents incorrectly filled out the Kolb nine-set word test, failed to indicate their gender, or failed to indicate whether they were a PCO, ACO, or TCO. Because the majority of surveys were completed on an anonymous basis, incorrect surveys were discarded. Responses were received from 60 activities, with several returning more surveys than were sent, for a return rate of approximately eighty-eight percent.

A total of 426 surveys were sent to sixty-five companies that conduct significant business with the Government. The

letter of introduction requested that the surveys be completed only by negotiators that negotiate on/for Government contracts. Because the size of industry contracting Departments was unknown by the researcher, approximately 10 surveys were sent to each activity. Industry response was superb with over 90 percent of the companies responding. A total of 160 responses were received of which 153 were complete and appropriate. The return rate from industry was approximately ninety-six percent.

#### **D. SUMMARY**

A total of 986 surveys were sent to Government and private industry contracting departments. A total of 626 complete and appropriate responses were received from Government and industry negotiators which enabled the research to examine and compare predominant learning styles. The following three chapters will present the results of the survey.

Chapter IV will present and analyze predominant learning styles of Government negotiators. Chapter V will present and analyze predominant learning styles of industry negotiators. Chapter VI will present a comparison of the predominant learning styles of Government versus industry negotiators.

#### **IV. LEARNING STYLES OF GOVERNMENT NEGOTIATORS**

##### **A. INTRODUCTION**

This chapter presents and examines data concerning Government employee learning styles. A total of 473 responses are used to define predominant learning styles. The data are first presented by major demographic category (age, gender, position, education, contracting experience, negotiation experience, and dollar value of negotiation authority) and are then examined with reference to several different combinations of these categories. A discussion and analysis of predominant trends, differences, and similarities of Government negotiator learning styles will be presented in Chapter VI.

##### **B. AGE**

Out of the 473 respondents, 29 (6%) were from age group 20-30, 169 (36%) were from age group 31-40, 202 (43%) were from age group 41-50, 67 (14%) were from age group 51-60, and six (1%) were age 61 or older. Table II illustrates the LSI scores by mean. Figure 4 shows where the scores fall on the LSI Grid.

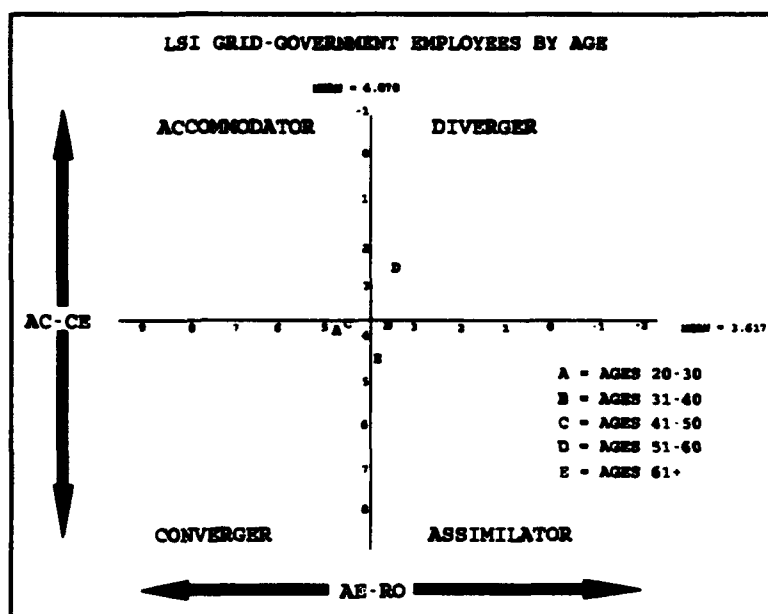
None of the five age groups of Government negotiators varies far from the mean, however the 51-60 age group displays a larger inclination to favor the concrete over the abstract than do the other four groups. The age group of 61 and older

**Table II. LSI SCORES BY AGE**

GROUP	CE Mean	RO Mean	AC Mean	AE Mean	AC-CE Mean	AE-RO Mean
20-30	14.14	12.86	18.14	17.79	3.97	4.93
31-40	14.2	12.89	18.05	16.54	3.86	3.66
41-50	14.38	12.48	18.19	17.07	3.72	4.59
51-60	15.09	13.05	17.70	16.37	2.61	3.33
61+	14	12.83	18.5	16.67	4.5	3.83
MEAN	14.42	12.75	18.03	16.82	3.62	4.07

displays a stronger preference towards abstract traits, however this observation should be tempered by the fact that there were only six (1%) respondents in this category.

It appears that as a Government negotiator ages, learning preference moves from the abstract towards a stronger emphasis on the concrete. There is no pattern that stands out between the polar

**Figure 4. LSI GRID - AGE**

opposites on the AE-RO learning dimension. Government negotiators within the age range of 31-40 (36% of respondents) fall within the Assimilator learning style and those within

the age range of 41-50 (43% of respondents) fall within the Converger learning style. Both groups slightly favored abstract conceptualization over concrete experience. The primary difference in the two groups was that the 31-40 group favored reflective observation while the 41-50 group favored active experimentation.

### C. GENDER

Table III illustrates the Learning Style Inventory test scores by gender. Figure 5 provides an illustration of the scores on the LSI Grid. There were a total of 261 (56%) male respondents and 209 (44%) female respondents to the survey.

As the scores indicate and as illustrated on the LSI Grid, the male negotiators fall within the Converger learning style, while female negotiators fall within the Diverger learning style which are considered polar opposites. The male negotiators tend to favor active experimentation and abstract conceptualization while the female negotiators favor concrete experience and reflective observation.

**Table III. LSI SCORES - GENDER**

GROUP	CE Mean	RO Mean	AC Mean	AE Mean	AC-CE Mean	AE-RO Mean
MALE	14.07	12.59	18.21	17	4.14	4.41
FEMALE	14.85	12.93	17.81	16.58	2.96	3.66
MEAN	14.42	12.75	18.03	16.82	3.62	4.07

Divergers are interested in people and are imaginative and emotional. Convergers tend to be unemotional and prefer to deal with things rather than people. The contrast in the

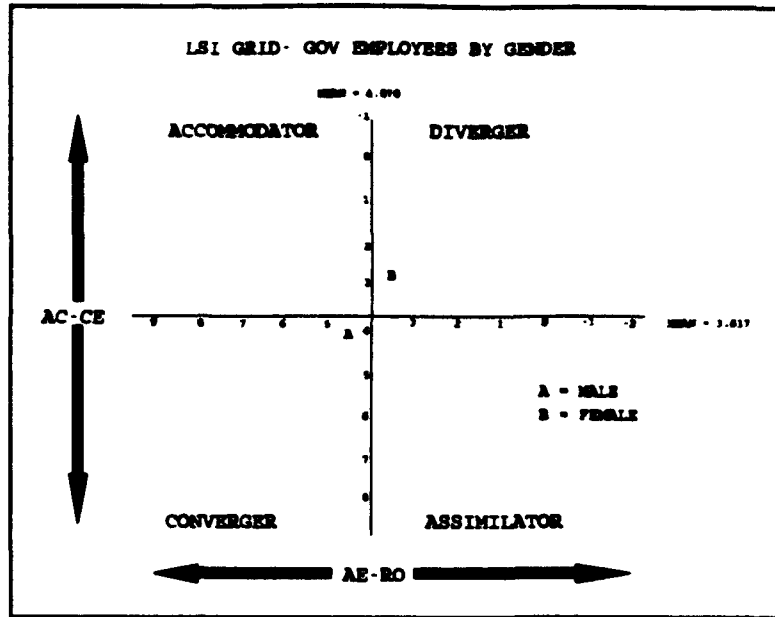


Figure 5. LSI GRID - GENDER

learning stages is much more pronounced between concrete experience and abstract conceptualization than it is for active experimentation and reflective observation.

#### D. POSITION TYPE

The 473 responses to the survey consist of 343 (73%) Procuring Contracting Officer (PCO) responses, 115 (24%) Administrative Contracting Officer (ACO) responses, and 15 (3%) Terminations Contracting Officer responses. It was expected that responses from TCO negotiators would be rather limited because there are relatively few of these positions in comparison to the numbers of PCO and ACO negotiators in Government procurement.

Table IV displays the average test scores for the three categories of Government positions. Figure 6 illustrates where

**Table IV. LSI SCORES - JOB TYPE**

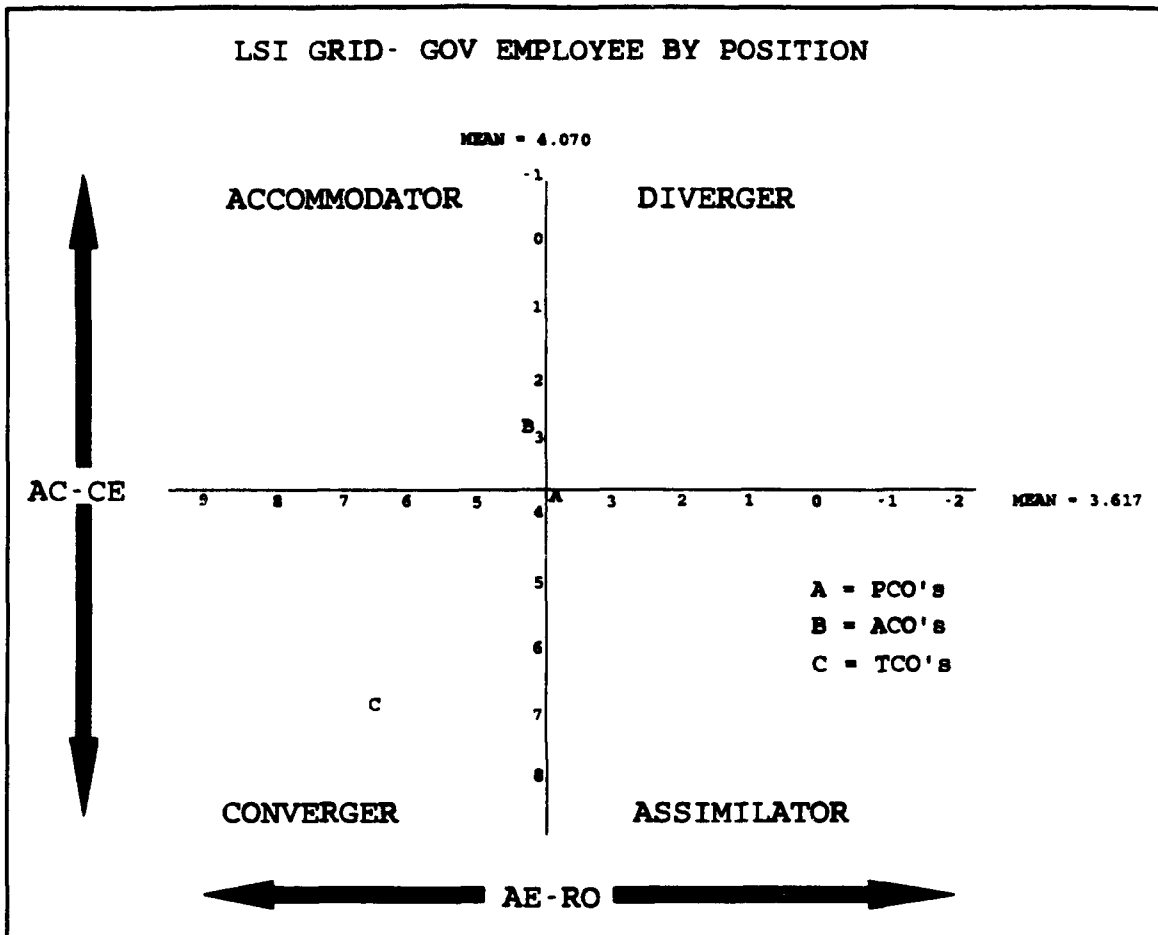
GROUP	CE Mean	RO Mean	AC Mean	AE Mean	AC-C E Mean	AE-R O Mean
PCOs	14.37	12.76	18	16.71	3.63	3.95
ACOs	14.77	12.87	17.79	17.01	2.99	4.12
TCOs	12.73	11.4	19.67	17.87	6.93	6.47
MEAN	14.42	12.75	18.03	16.82	3.62	4.07

the PCO, ACO, and TCO positions are in relationship to each other on the LSI Grid.

Figure 6 illustrates that PCOs are located within the Assimilator quadrant of the LSI Grid. However the scores of the PCO are almost equal to the mean of both the Active/Reflective (AE-RO) and Concrete/Abstract (AC-CE) dimensions of the learning process. These data on PCOs have not been broken down by the demographic distinctions so it is not really useful to this analysis except in comparing the learning styles of ACOs and TCOs. Once the different demographic data are used to break the PCO data into separate categories, then different learning styles should become apparent and the data relevant. The location of the ACOs on the Kolb LSI Grid indicate that they demonstrate a predominant learning style as Accommodators. The Grid displays that ACOs have stronger leanings toward concrete experience skills than towards active experimentation skills within the Accommodator



quadrant. Learning preferences in the active/reflective (AE-RO) dimension are almost equal to the mean.



**Figure 6. LSI GRID - POSITIONS**

The Terminations Contracting Officers (TCOs) stand out as being very different from the mean. Because of the small sample size (15 survey respondents) this will be the only comment on this information. TCOs are plotted as Convergents in the LSI Grid. They have a strong preference towards the abstract conceptualization (AC) and active experimentation (AE) learning stages. Convergents are proficient at sensibly

employing concepts and ideologies, using hypothetical and deductive reasoning, solving problems, and making decisions.

## **E. EDUCATION**

The 473 Government negotiator responses to the survey consisted of 105 (22.2%) respondents with only a High School education, eight (1.7%) respondents had two year college degrees, 164 (34.7%) of the respondents had Bachelor's degrees, 76 (16.1%) had Bachelor degrees plus additional education in pursuit of a Master's, 113 (23.9%) had their Master's Degree, and seven (1.4%) had obtained their Doctorate Degree.

**Table V. LSI SCORES - EDUCATION**

	IE MEAN	RO MEAN	AC MEAN	AE MEAN	AC-CE MEAN	AE-RO MEAN
HIGH SCHOOL	15.42	13.54	17.27	16.51	1.85	2.97
2 YR DEGREE	14.38	15.5	18.13	15.25	3.75	-.25
BACHELOR	14.39	12.52	18.02	16.9	3.6	4.4
BACHELOR +	14.51	12.93	18.03	16.62	3.51	3.63
MASTERS	13.5	12.14	18.62	17.2	5.12	5.05
DOCTORATE	13.57	10.29	20.43	17.14	6.88	7.14
MEAN	14.42	12.75	18.03	16.82	3.62	4.07

Table V illustrates the Learning Style Inventory scores by the level of education attained by Government negotiators that responded to the survey. Figure 7 plots these scores on the Learning Style Inventory Grid. The scores illustrate that

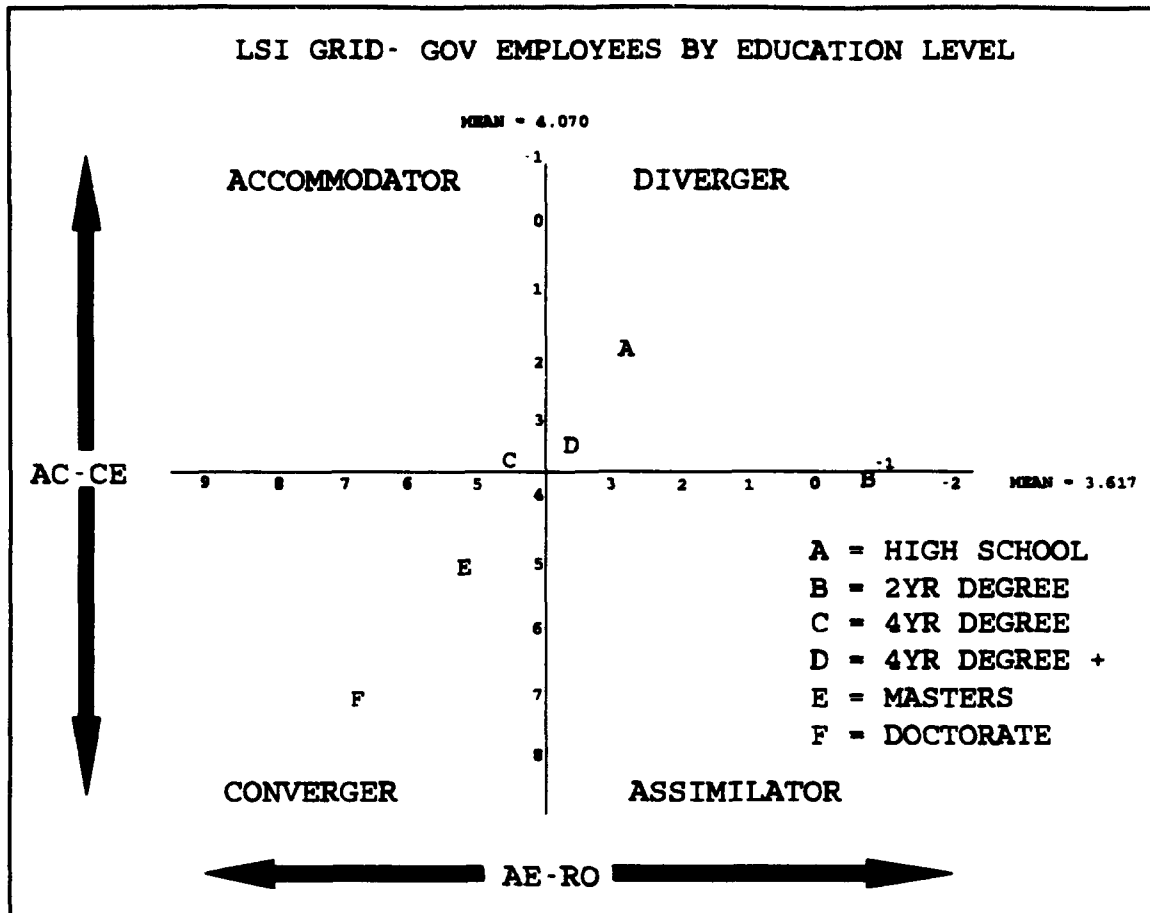
there are some major differences in learning styles among Government negotiators based upon the level of education obtained.

Government negotiators with only a high school education are strong Divergers. They tend to favor the concrete (sensing, feeling) skills over abstract (thinking) skills and the reflective (watching) over the active (doing) skills.

Negotiators with a Bachelor's Degree that are pursuing continuing education (4 years +) are also Divergers. Their learning style traits are not as strong as the negotiator with a high school education. They are skewed very closely to the mean of the survey group. They prefer the concrete only somewhat more than the abstract and the reflective only slightly more than the active.

Negotiators with Associate Degrees fall within the Assimilator quadrant. Because of the small proportion of responses (2%) this observation is suspect. However, if it indicates the true status, then the following comments are applicable. They have very strong preferences towards reflective skills such as patience, objectivity, and careful judgment compared to their active (desire to get things done) skills. Assimilators like to think and watch. There are no significant differences in their concrete and abstract stages of the learning cycle.

Negotiators with Bachelor's Degrees fall within the Accommodator learning style quadrant. They tend to favor



**Figure 7. LSI GRID - EDUCATION**

concrete and active learning abilities. The score from the Learning Style Inventory indicates that they are very close to being equal to the mean of the group. They are not strong Accommodators. The active experimentation ability is emphasized more so than any of the other learning abilities. The AC-CE dimension is almost equal to the mean of the survey group of Government negotiators. The Accommodator learning style is noted for having strength in doing things and executing plans. They prefer to rely on others for information

rather than to use their own analytical skills, and learn predominantly from hands on experiences.

Government negotiators with Master's Degrees are situated firmly within the Converger orientation on the LSI Grid. They are oriented towards the abstract and active learning abilities. They tend to do well in problem solving, decision making and practical application of ideas.

Government negotiators with Doctorate Degrees are Convergers also. They have the strongest tendencies toward the abstract conceptualization and active experimentation orientation in the survey response group. As with the Master's Degree Convergers, they are thinkers and doers. Technical problems which require the application of ideas, hypothetical deductive reasoning, and decisions, are their forte.

#### **F. CONTRACTING EXPERIENCE**

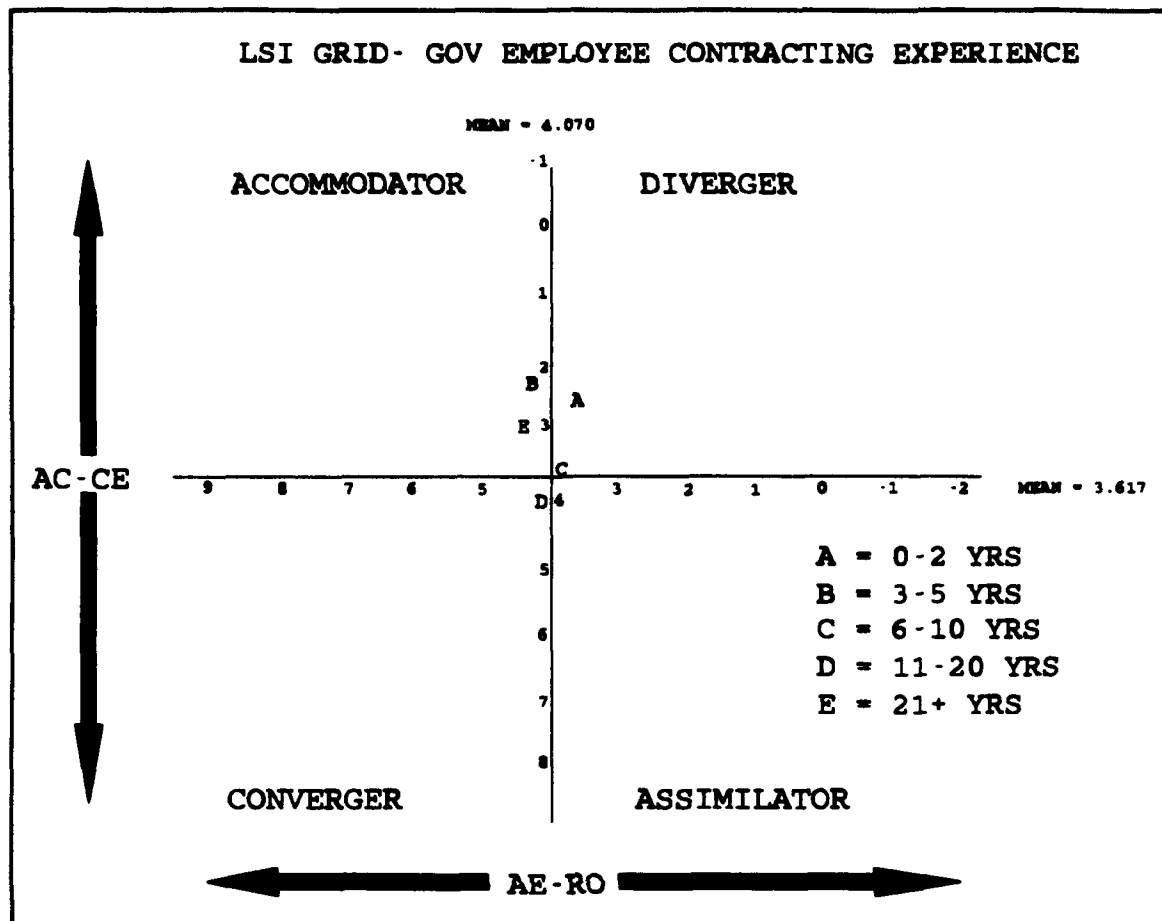
Table VI illustrates the mean scores of the 473 Government negotiator responses by years of contracting experience. There were five (1.1%) negotiators with less than two years experience, 35 (7.4%) negotiators with three to five years experience, 123 (26%) negotiators with six to 10 years experience, 219 (46.3%) negotiators with 11 to 20 years experience, and 91 (19.2%) of the negotiators had greater than 21 years of experience. The scores of the Learning Style Inventory are illustrated on the LSI Grid in Figure 8.

**Table VI. LSI SCORES - YEARS CONTRACTING EXPERIENCE**

GROUP	CE MEAN	RO MEAN	AC MEAN	AE MEAN	AC-CE MEAN	AE-RO MEAN
< 2	14.4	13.8	17	17.4	2.6	3.6
3- 5	14.83	13.2	17.34	17	2.49	4.26
6-10	14.2	12.97	17.8	16.78	3.61	3.81
11-20	14.32	12.58	18.39	16.73	4.07	4.16
> 21	14.79	12.57	17.81	16.98	3.02	4.41
MEAN	14.42	12.75	18.03	16.82	3.62	4.07

The five groups within this category are grouped very closely to the mean for the active/ reflective (AE-RO) learning dimension. The most significant differences are within the concrete experience/sensing and abstract conceptualization/thinking (AC-CE) dimension. Government negotiators with under two years of experience are Divergers. Because there were only five responses that fell within this range, the data could be highly skewed. However, because these individuals lack experience, their learning style is similar to that of the negotiators with only a high school education. They are concrete and reflective so they prefer learning by watching and feeling.

Negotiators with three to five years experience fall within the Accommodator Grid. Again this is a very small percentage of the respondents so the data could be skewed. This group favors sensing and doing or the concrete and active



**Figure 8.** LSI GRID - YEARS CONTRACTING EXPERIENCE

orientation. There is not a significant difference in the AE-RO dimension, however this group shows a strong preference for the concrete over the abstract. They would much rather learn by feeling and experience than by having to use deductive reasoning and logic.

Government negotiators with six to 10 years of contracting experience are Divergers but fall almost on the mean of the survey group. As Table VI illustrates, the score for the abstract/concrete (AC-CE) dimension falls within one one-hundredth of the mean score. This indicates that they have no

predominant preference in this dimension. In the active/reflective (AE-RO) dimension they have only a very slight orientation towards the reflective/watching skills.

Government negotiators with 11 to 20 years of contracting experience are Convergers. They favor thinking and doing or the active and abstract skills. They are oriented more towards the abstract then towards the active. The score for this group on the active/reflective (AE-RO) dimension and the abstract/concrete (AC-CE) is very close to the mean, indicating that they are not very strongly oriented towards the Diverger learning preference.

Finally, the scores for Government negotiators with 21 plus years of contracting experience indicate that they are Accommodators. This group has its largest difference on the abstract/concrete (AC-CE) learning dimension. They like to do things and learn by experience. They are oriented towards making things happen and taking risks.

#### **G. NEGOTIATION EXPERIENCE**

Table VII illustrates the mean scores of the 473 Government negotiators by years of negotiation experience. There were 12 (2.5%) negotiators with less than one year negotiation experience, 47 (9.9%) with two to four years, 106 (22.4%) with five to eight years, 131 (27.7%) with nine to 12 years experience, 135 (28.6%) with 13 to 20 years experience, and 42 (8.9%) with greater than 21 years of negotiation



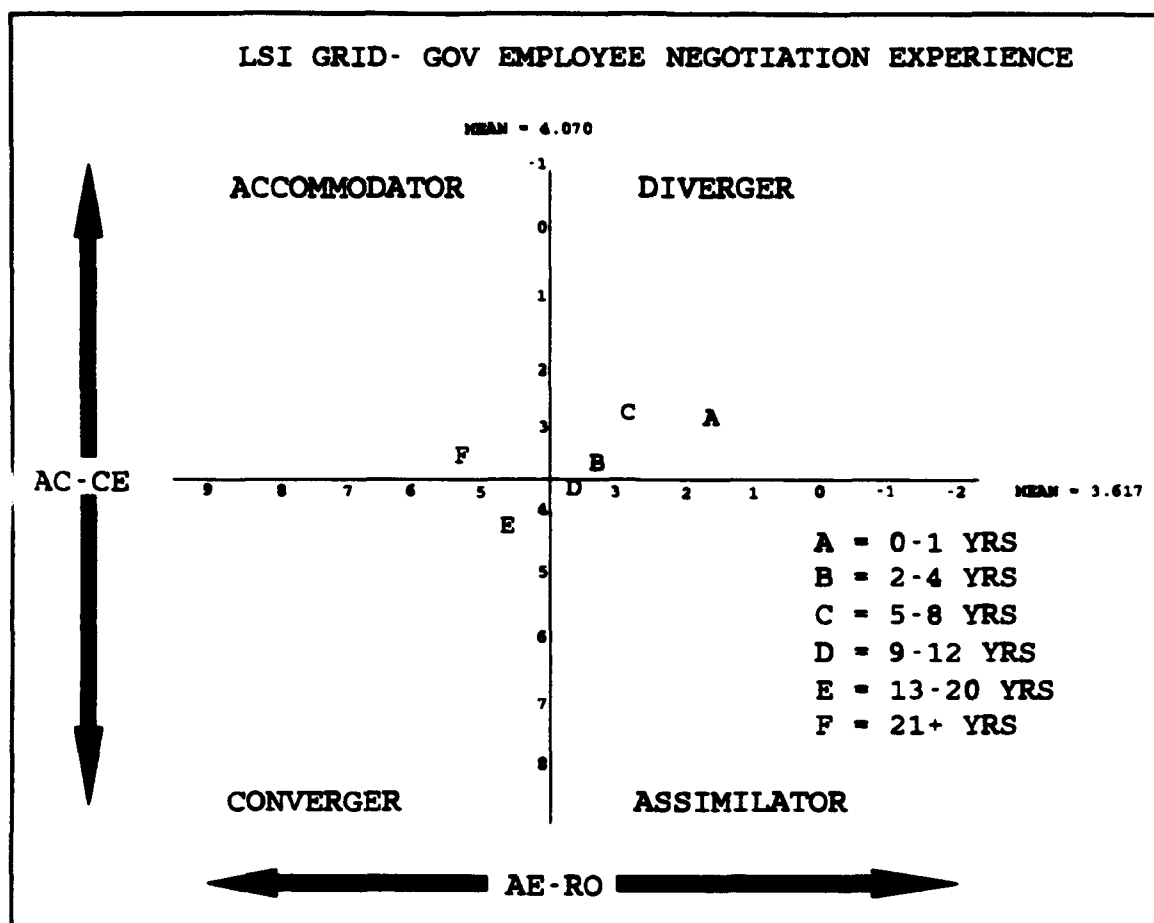
**Table VII. LSI SCORES - YEARS NEGOTIATION EXPERIENCE**

GROUP	CE MEAN	RO MEAN	AC MEAN	AE MEAN	AC-CE MEAN	AE-RO MEAN
< 1	14.25	14.67	17.17	16.25	2.92	1.58
2 - 4	14.47	13.7	20.02	16.85	3.4	3.15
5 - 8	14.69	13.94	17.43	16.64	2.84	2.82
9 - 12	14.37	12.92	18.16	16.57	3.79	3.64
13 - 20	14.24	12.33	18.48	16.99	4.24	4.67
> 21	14.45	12.14	17.88	17.31	3.43	5.17
MEAN	14.42	12.75	18.03	16.82	3.62	4.07

experience. The scores of the Learning Style Inventory are illustrated on the LSI Grid in Figure 9.

The LSI scores indicate that the Government contract negotiator moves around the Kolb experimental learning cycle (see Figure 1) as their years of experience in negotiations increases. All of the Government employees with less than eight years negotiation experience are Divergers, those with nine to 12 years experience are Assimilators, those with 13 to 20 years are Convergers, and those with greater than 21 years negotiation experience are Accommodators.

Of the three groups that fall within the Diverger learning style, the group with least experience, under one year, has very strong leanings towards reflective skills. They have a moderate leaning towards the concrete or sensing/feeling learning ability. As they gain experience (points C and B on Figure 15) they move closer towards the mean on the



**Figure 9.** LSI GRID - YEARS NEGOTIATION EXPERIENCE

abstract/concrete (AC-CE) dimension, but remain strongly entrenched in favoring reflection over activity (AE-RO).

Negotiators with nine to 12 years of negotiation experience fall within the Assimilator learning style, and continue to show the trend of this analysis group as it moves towards the active ability on the (AE-RO) dimension. Although they still show a preference for the reflective, it is less than so than the other three less experienced groups. This group also shows a preference for thinking vice sensing. They would prefer to deal in issues that require the comprehension

of an abundance of data and the requirement of logically organizing it.

The group of Government negotiators with 13 through 20 years of negotiation experience fall into the Converger Grid. They show the continued movement of this analysis group around the experimental learning cycle model based on years of negotiation experience. They favor activity over observation and thinking over the explicit.

The final group in this category of analysis is negotiators with over 21 years of negotiation experience. They complete the movement around the learning cycle. They have a very strong orientation towards the active experimentation ability on the active/reflective (AE-RO) learning dimension. Additionally this group moves back into favoring the concrete over the abstract on the (AC-CE) dimension.

#### **H. NEGOTIATION AUTHORITY**

This grouping looks at the breakdown of learning styles of Government contract negotiators based upon the dollar value of contracts they are authorized to negotiate and award. Within this grouping there were 41 (8.7%) with negotiation authority less than \$25,000, 86 (18.2%) negotiators with authority that ranged from \$25,000 to \$500,000, 28 (5.9%) negotiators with \$500,000 to \$1,000,000 negotiation authority, 21 (4.4%) with authority that ranged from \$1,000,000 to \$10,000,000, six (1.3%) with authority greater than \$10,000,000, and 291

Government negotiators with authority for negotiating contracts for any price. Table VIII illustrates the mean scores of six groups broken down by increasing thresholds of negotiation authority. Figure 10 provides an illustration as to the learning style preference on the LSI Grid.

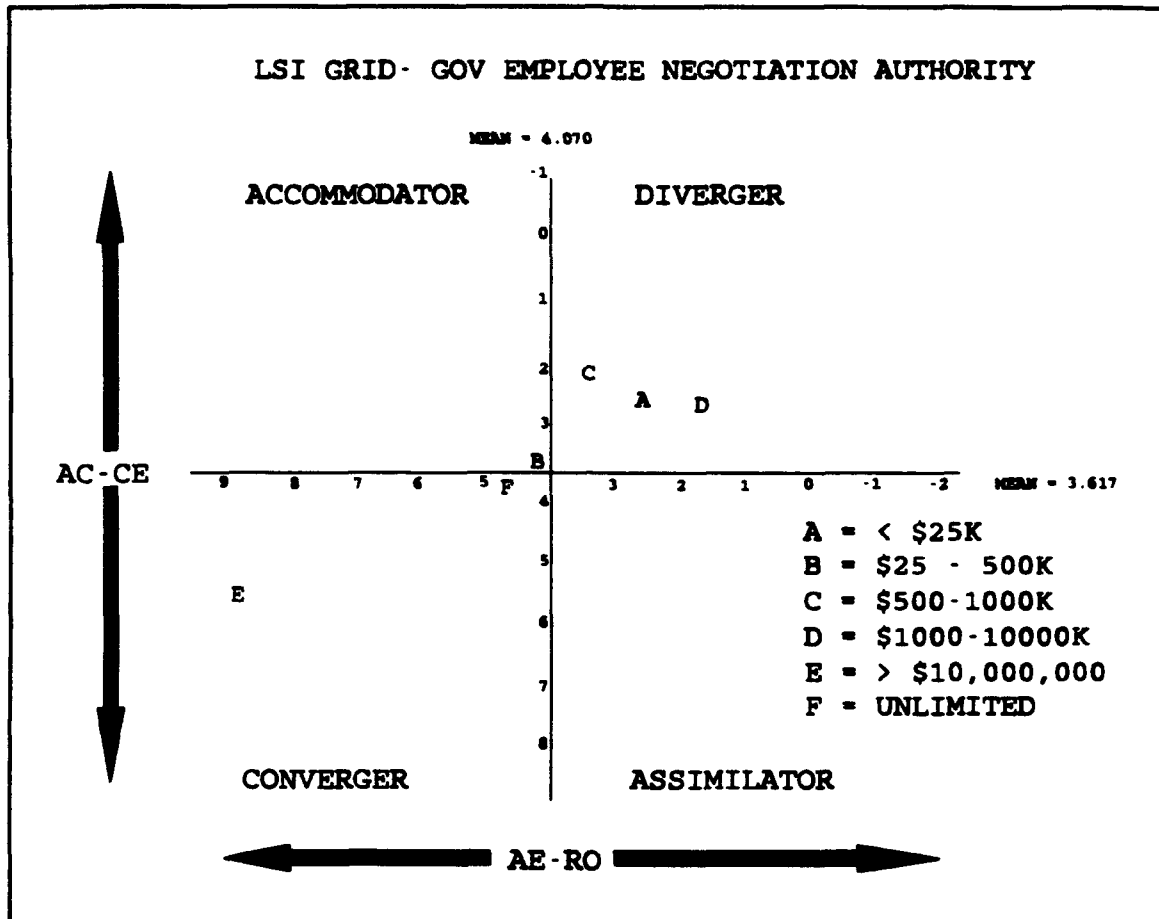
**Table VIII. LSI SCORES - NEGOTIATION AUTHORITY**

GROUP	CE MEAN	RO MEAN	AC MEAN	AE MEAN	AC-CE MEAN	AE-RO MEAN
< \$25,000	14.49	14	17.1	16.51	2.6	2.51
25-500K	14.54	13.55	18.12	17.73	3.59	4.19
500-1000K	15.18	13.14	17.36	16.86	2.18	3.36
1000-10000K	14.86	13.62	17.52	15.38	2.67	1.76
>10,000K	15	9.67	20.67	18.5	5.67	8.83
UNLIMITED	14.25	12.25	18.18	17.03	3.93	4.79
MEAN	14.42	12.75	18.03	16.82	3.62	4.07

As indicated by the location on the LSI Grid, there are three groups of Divergers, one Accommodator, and two Convergors. The most significant observation is that the majority of the survey group, (61.5%), has unlimited contract negotiation authority. The majority of negotiation thresholds for contracting warrants appear to be either very small or unlimited. There are no major trends in this grouping of survey data.

The group of Government negotiators with less than \$25,000 authority have the predominant learning style of the Diverger. They favor both concrete (sensing/feeling) and reflective

(watching) learning abilities. The orientation of this group to the two different learning dimensions is equal.



**Figure 10.** LSI GRID - DOLLAR VALUE OF NEGOTIATION AUTHORITY

The group of negotiators with \$25,000 to \$500,000 in negotiation authority falls within the learning style of the Accommodator. They have no super strong preferences for any learning dimension. They favor the concrete (CE) over the abstract (AC) by only three one-hundredths of a point and the active (AE) over the reflective (RO) by only twelve one-hundredths of a point. This group almost equals the mean,

however since they fall within the accommodator grid, they should favor sensing/feeling and doing skills.

The groups with negotiation authority of \$500,000 to \$1 million and \$1 million through \$10 million both fall into the LSI Diverger quadrant. Their orientation is focused on the concrete and reflective skills. They like to solve problems through the generation of ideas and like to make decisions.

The group with negotiation authority range greater than \$10 million is very small. Only six respondents fell into this category. They fall into the LSI Grid as Convergents. Within this grouping they had the most distinct preferences on the two dimensions of the Kolb Learning Style Inventory. They most strongly favor activity over reflection (AE-RO) and the abstract over the concrete (AC-CE). They are similar to Government negotiators who have unlimited authority.

The largest group (291 respondents, 61.55%) of Government negotiators was the group with unlimited negotiation authority. This group also falls into the Converger quadrant. This group has only a slightly stronger emphasis towards the abstract than it does for the concrete. It has a larger orientation towards the activity than it does towards reflecting. This means that this group likes to use deductive reasoning, define and solve problems, make decisions, and make things happen.

## **I. MISCELLANEOUS DATA GROUPINGS**

Sections B through H provided an examination of the 473 Government negotiator responses by reviewing learning styles by the demographic data requested on the survey. This section will now look at a few specific combinations of the data to compare the PCO versus the ACO.

The examination will start by examining ACO and PCO learning styles by gender. It will then examine ACO and PCO learning styles by gender and the level of education. Next the ACO and PCO learning styles will be reviewed by gender, level of education, and age. Finally, they will be examined by gender, education, and negotiation authority.

There are unlimited combinations of the data that can be analyzed, however this study will defer further review of Government negotiators by negotiation experience, contracting experience, negotiation training, and other combinations thereof, to further research efforts.

To provide the reader the ability to distinguish the size and percentage of the response group, and to be able to see why certain combinations were analyzed, Table IX was included. It provides a breakdown of each of the demographic groups by number of survey respondents, percentage of the group, the Abstract Conceptualization/Concrete Experience (AC-CE) learning dimension score, and the Active Experimentation/Reflective Observation (AE-RO) learning dimension score.

**Table IX. SURVEY PERCENTAGES AND LSI DIMENSION SCORES.**

GROUP - POSITION	NUMBER	%	AC-CE	AE-RO
PCO	343	72.5	3.63	3.95
ACC	115	24.3	2.99	4.12
TCO	15	3.2	6.93	6.47
<b>GENDER</b>				
MALE	264	55.8	4.14	4.41
FEMALE	209	44.2	2.96	3.68
<b>AGE</b>				
20-30	29	6.1	3.97	4.93
31-40	169	35.7	3.86	3.66
41-50	202	42.7	3.72	4.59
51-60	67	14.2	2.61	3.33
61 +	6	1.3	4.5	3.83
<b>EDUCATION</b>				
HIGH SCHOOL	105	22.2	1.85	2.97
ASSOCIATE DEGREE	8	1.7	3.75	1.25
BACHELOR DEGREE	164	34.7	3.6	4.4
BACHELOR PLUS	76	16.1	3.51	3.63
MASTER DEGREE	113	23.9	5.12	5.05
DOCTORATE	7	1.4	6.86	7.14
<b>CONTRACTING EXPERIENCE</b>				
0-2 YEARS	5	1.1	2.6	3.6
3-5 YEARS	35	7.4	2.49	4.26
6-10 YEARS	123	26	3.61	3.81
11-20 YEARS	219	46.3	4.07	4.16
20 + YEARS	91	19.2	3.02	4.41
<b>NEGOTIATION EXPERIENCE</b>				
0-1 YEARS	12	2.5	2.92	1.58
2-4 YEARS	47	9.9	3.4	3.15
5-8 YEARS	106	22.4	2.84	2.82
9-12 YEARS	131	27.7	3.79	3.64
13-20 YEARS	135	28.5	4.24	4.67
21 + YEARS	42	8.9	3.43	5.17
<b>NEGOTIATION AUTHORITY</b>				
< \$25,000	41	8.7	2.61	2.51
\$25,000-\$500,000	86	18.2	3.59	4.19
\$500K-\$1 MILLION	28	5.9	2.18	3.36
\$1-\$10 MILLION	21	4.4	2.67	1.78
> \$10,000,000	6	1.3	5.67	8.83
UNLIMITED	291	61.5	3.93	4.79
<b>GOVERNMENT TOTAL/MEAN</b>	<b>473</b>	<b>100%</b>	<b>3.62</b>	<b>4.07</b>

The response by TCOs will not be used for further



comparison due to the small number of responses received. Additionally, there will be no comment regarding military versus GS/GM-1102 PCOs or CPCMs to non-CPCMs due to the limited responses received in these categories. The follow-on analysis will start by comparing predominant learning styles of Government PCOs against ACOs.

### **1. The PCO Versus The ACO**

As shown earlier in subsection D, the predominant learning style of the PCO was identified as an Assimilator and the predominant learning style of the ACO was identified as an Accommodator. This subsection will present a further analysis of these two types of Government contract negotiators in an attempt to determine if there are predominant learning styles that can be distinguished between the two groups.

#### **a. Gender**

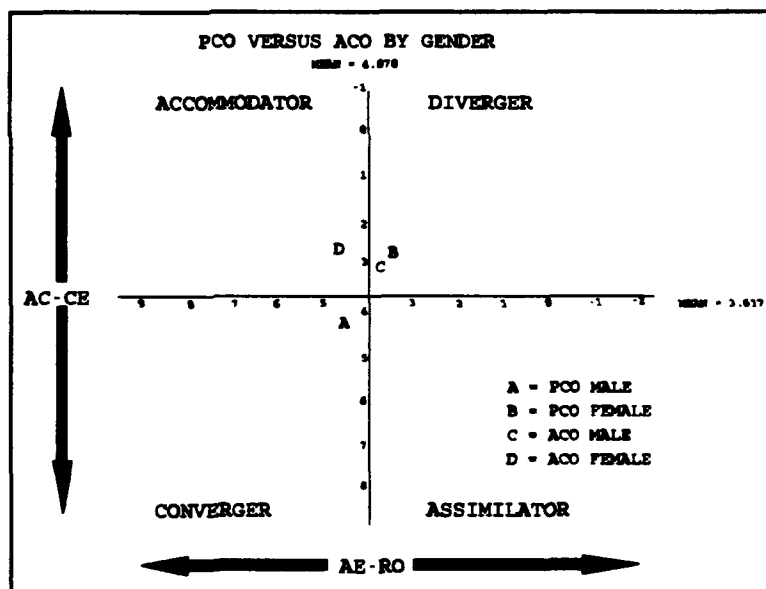
There are 458 responses that will be used to determine if there are different learning styles that can be distinguished between male PCOs and ACOs, and female PCO and ACOs. There were 343 (75%) PCOs and 115 (25%) ACOs used to determine appropriate learning styles. Of the 343 PCO survey responses, 179 (52.2%) were male and 164 (47.8%) were female. There were 115 ACO responses of which 73 (63.5%) were male ACO and 42 (36.5%) were female PCO survey responses. The mean scores obtained on the LSI are provided in Table X. Figure 11 provides an illustration of the mean scores on the LSI Grid.

**Table X. PCO/ACO LSI SCORES BY GENDER**

GROUP	CE	RO	AC	AE	AC-CE	AE-RO
PCO MALE	13.9	12.51	18.27	16.93	4.37	4.43
PCO FEMALE	14.88	13.02	17.8	16.46	2.92	3.45
ACO MALE	14.69	13.08	17.8	16.95	3.11	3.86
ACO FEMALE	14.93	12.5	17.76	17.1	2.83	4.6
GOV MEAN	14.42	12.75	18.03	16.82	3.62	4.07

PCOs were identified as Assimilators when all were scored together. However, once the PCO is broken down and examined by Gender, two different learning styles become distinguishable.

The male PCO now falls within the Converger learning style while the female PCO falls within the Diverger learning style. These are deemed exact opposites in the Kolb learning theory. The male



**Figure 11. LSI SCORES - PCO/ACO BY GENDER**

PCO favors activite experimentation (doing) and abstract conceptualization (thinking) while the female PCO favors concrete experience (sensing/feeling) and reflective observation (watching).The male ACO falls into the Diverger

quadrant while the female ACO falls within the Accommodator quadrant. The major difference in the scores of the male and female ACO is on the AE-RO dimension. The female ACO favors activity while the male favors reflection. There is only a slight variance in the AC-CE dimension score. Both favor the concrete (sensing/feeling) over the abstract (thinking).

Only the male PCO favors abstract conceptualization. The other three groups all favor the sensing and feeling learning skills on the AC-CE dimension.

#### **b. Gender & Education**

This subsection discusses the Government PCO and ACO learning styles which are categorized by gender and education level. Table XI provides a detailed breakdown of the

**Table XI. PCO/ACO LSI RESPONDENTS BY GENDER & EDUCATION**

	MALE PCO	FEMALE PCO	MALE ACO	FEMALE ACO
HIGH SCHOOL	18	63	7	20
AA DEGREE	1	5		2
BACHELOR	70	48	31	11
BACHELOR +	32	21	16	4
MASTERS	53	27	18	15
DOCTORATE	5		1	
TOTAL	179	164	73	42

number of Government respondents by the level of education obtained. Table XII provides the mean LSI scores for the PCO and ACO

respondents by gender and for the four education levels used for this comparison. Finally, the LSI scores from Table XII are plotted on the LSI Grid in Figure 12. The scores for PCOs and ACOs with Associate Degrees and Doctorates are not presented in Table XII or Figure 12, because there are too few to allow for adequate comparison.

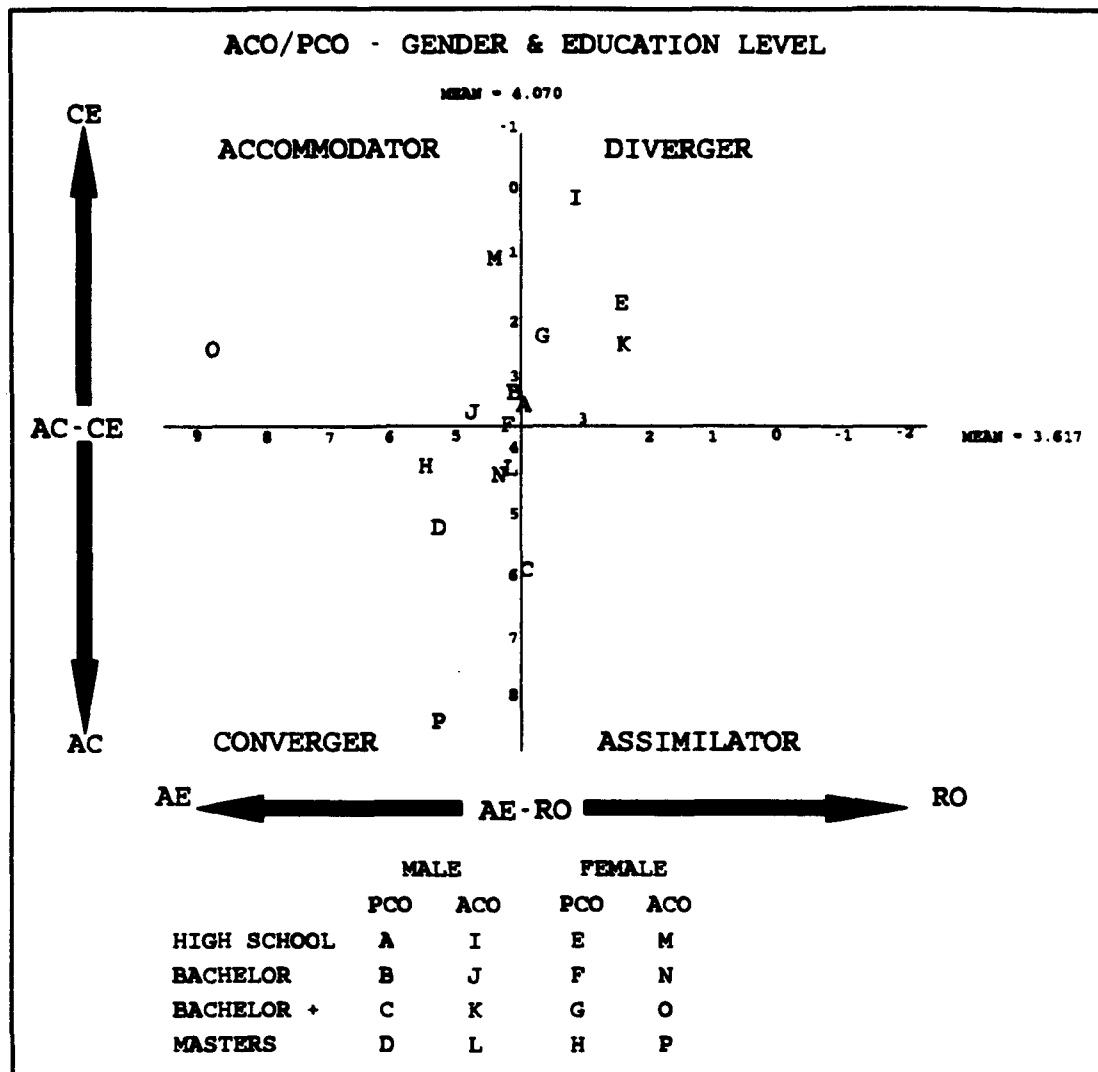
The level of education for Government negotiators is very high. Over 89% of the male PCOs have achieved at least a four year college education. Only 58% of the female PCOs have achieved a four year

**Table XII.** PCO/ACO LSI SCORES - GENDER & EDUCATION

EDUCATION	SURVEY GROUP	AC-CE	AE-RO
HIGH SCHOOL	MALE PCO	3.39	4.00
	FEMALE PCO	1.81	2.25
	MALE ACO	.14	3.14
	FEMALE ACO	1.1	4.35
BACHELOR	MALE PCO	3.13	4.11
	FEMALE PCO	3.63	4.21
	MALE ACO	3.55	4.77
	FEMALE ACO	4.27	4.27
BACHELOR PLUS	MALE PCO	5.84	3.97
	FEMALE PCO	2.19	3.62
	MALE ACO	2.31	2.31
	FEMALE ACO	2.50	8.75
MASTERS	MALE PCO	5.23	5.23
	FEMALE PCO	4.33	5.33
	MALE ACO	4.22	4.11
	FEMALE ACO	8.80	5.20
MEAN		3.62	4.07

degree. Over 90% of the male ACOs have at least a four year college degree. Only 48% of the female ACOs have achieved a four year college degree.

As Figure 12 illustrates, the learning styles of both PCOs and ACOs are scattered all over the Kolb LSI Grid when they



**Figure 12.** LSI GRID - PCO/ACO SCORES BY GENDER & EDUCATION

are further subcategorized by gender and education. Figure 11 showed that male PCOs fell within the Converger quadrant. Figure 12 shows that when education is used to further subdivide and more closely examine the male PCO, they fall within all the quadrants. Additionally, as male PCOs receive more education, they develop stronger abstract learning traits. Learning preferences on the AE-RO dimension remain centered close to the mean until the male PCO obtains a

Master's Degree. At this level of education there is a strong preference towards the active (doing) learning skills.

Female PCOs show movement along both learning dimensions as they achieve higher levels of education. The most noticeable movement is along the AE-RO learning dimension. They exhibit tendencies for increased levels of activity and migrate towards the abstract as they achieve higher levels of education.

Both the male and female PCO show movement from the Diverger to the Converger learning style as their education increases. Female PCOs have stronger preferences towards Diverger traits and show greater change in learning styles as their education increases.

The male ACO with a High School education starts as a Diverger and becomes a Converger once a Master's degree is obtained. They exhibit greater changes on the AC-CE dimension. The female ACO with a high school education starts as an Accommodator, with a very weak bias towards the active on the AE-RO dimension, and becomes a Converger once a Master's degree is achieved. This group has the largest fluctuations in learning style scores. The female ACO with a High School education has a very strong preference towards the concrete on the AC-CE dimension. Female ACOs with Master's Degrees have a very pronounced bias towards the abstract.

All four groups cluster around the mean of the Government survey group at the Bachelor's degree level of education.

Although they are located in several different quadrants, they have very slight differences in LSI scores. Scores for the group of PCOs/ACOs with Bachelor's degrees plus additional studies, are scattered all around the grid.

All four groups with Master's Degrees fall within the Converger quadrant of the LSI Grid. The five male PCO respondents with Doctorate Degrees (not shown) also show very strong preferences towards the Converger learning style. The data suggests that Government negotiators learning styles favor the abstract over concrete and the active over reflective as the level of education increases.

The next subsection will attempt to further dissect the learning style of the Government PCO/ACO by further subdividing the gender and education breakdown. Age will be the next factor included.

### **c. Gender, Education, & Age**

This section will provide a look at learning styles of the Government negotiator by analyzing the PCO/ACO LSI scores by gender, education level, and age. A breakdown will not be provided to show the number of respondents in each category. Additionally, this subsection will limit comments to the two largest of the five age group categories of the survey. These learning preferences of the two age categories will be illustrated on the Kolb LSI Grid.

(1) Age 31-40

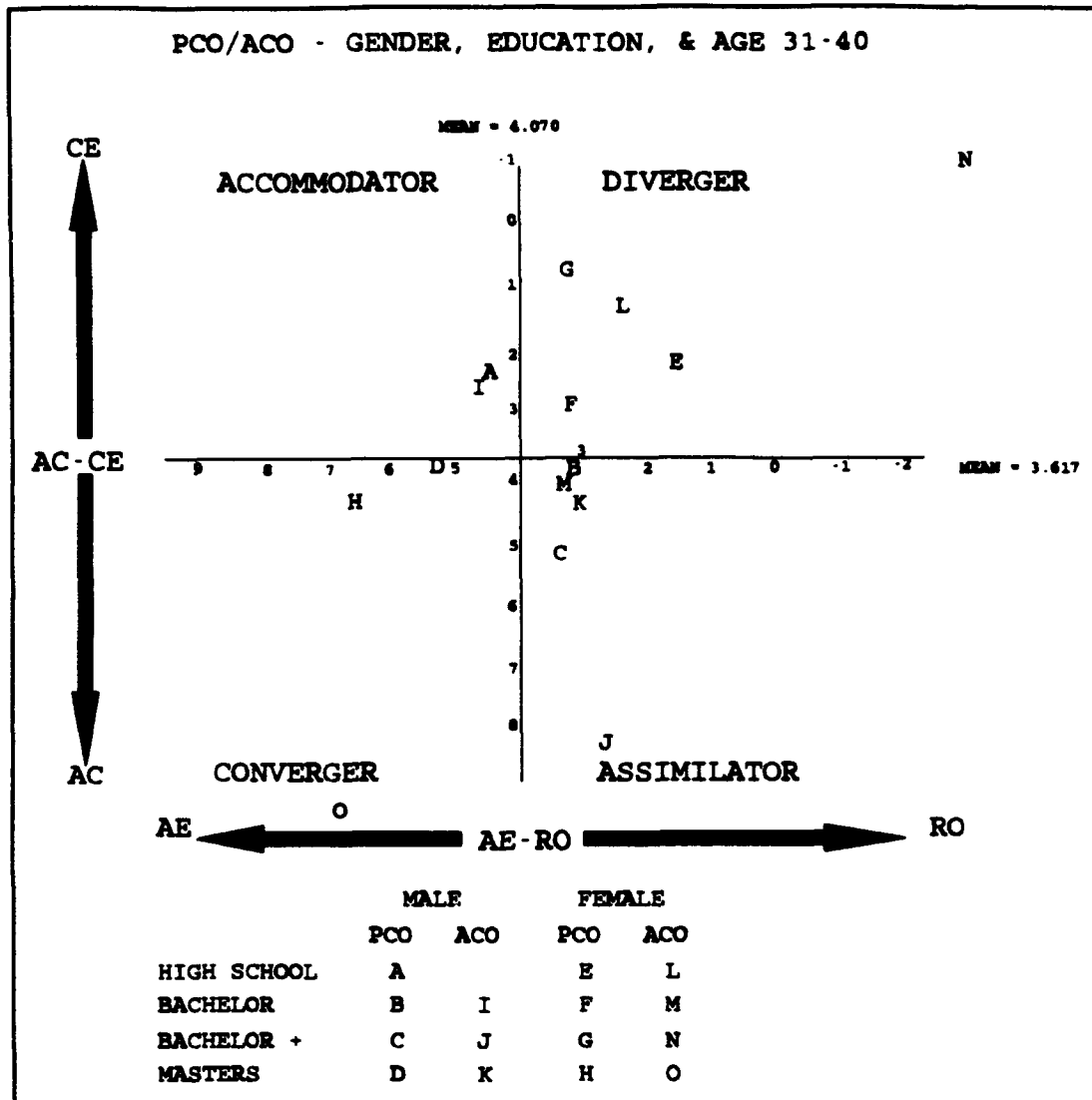
There were 165 Government PCO/ACO respondents that fell within the ages of 31-40. There were 66 male PCOs, 68 female PCOs, 14 male ACOs, and 17 female ACOs. Respondents were sorted by gender, education and age. Figure 13 provides an illustration of where the respondents' learning dimension scores are located on the Kolb LSI Grid. Because of the small sample size for some of the groupings, LSI scores for male and female ACOs might tend to be somewhat skewed when compared to those of the PCO.

Within this age group the male PCO migrates through all four quadrants of the Kolb learning cycle as the level of education increases. The male PCO with a high school education starts as an Accommodator, progresses to the diverger quadrant (Bachelor's Degree), moves to the Assimilator Quadrant (Bachelor's plus), then finishes on the dividing line of the Accommodator/Converger quadrants.

The female PCO shows strong favoritism towards the Diverger learning style. This group remains in this quadrant until the achievement of a Master's Degree. The greatest change in this group occurs on the AE-RO dimension as the group moves towards favoring the active over reflective. Once they achieve a Master's Degree they become Convergers.

There were no male ACO survey responses with High School educations for this age group. This group started in the Accommodator quadrant and moved to the Assimilator quadrant as





**Figure 13.** LSI GRID - PCO/ACO SCORES BY GENDER, EDUCATION, & AGE 31-40

the level of education increased. Differences on the AC-CE dimension were small, however there were large shifts in the group's movement on the AC-CE dimension. Male ACOs with Bachelor's Degrees plus additional education, were very pronounced in leaning towards the abstract conceptualization skill. Once a Master's degree was obtained, the scores moved back to being close to the mean.

Female ACOs started in the Diverger quadrant and moved on both the learning dimension lines towards the Converger quadrant. Females with Bachelor's Degrees plus additional education, or Master's Degrees are skewed due to the small sample size within this category.

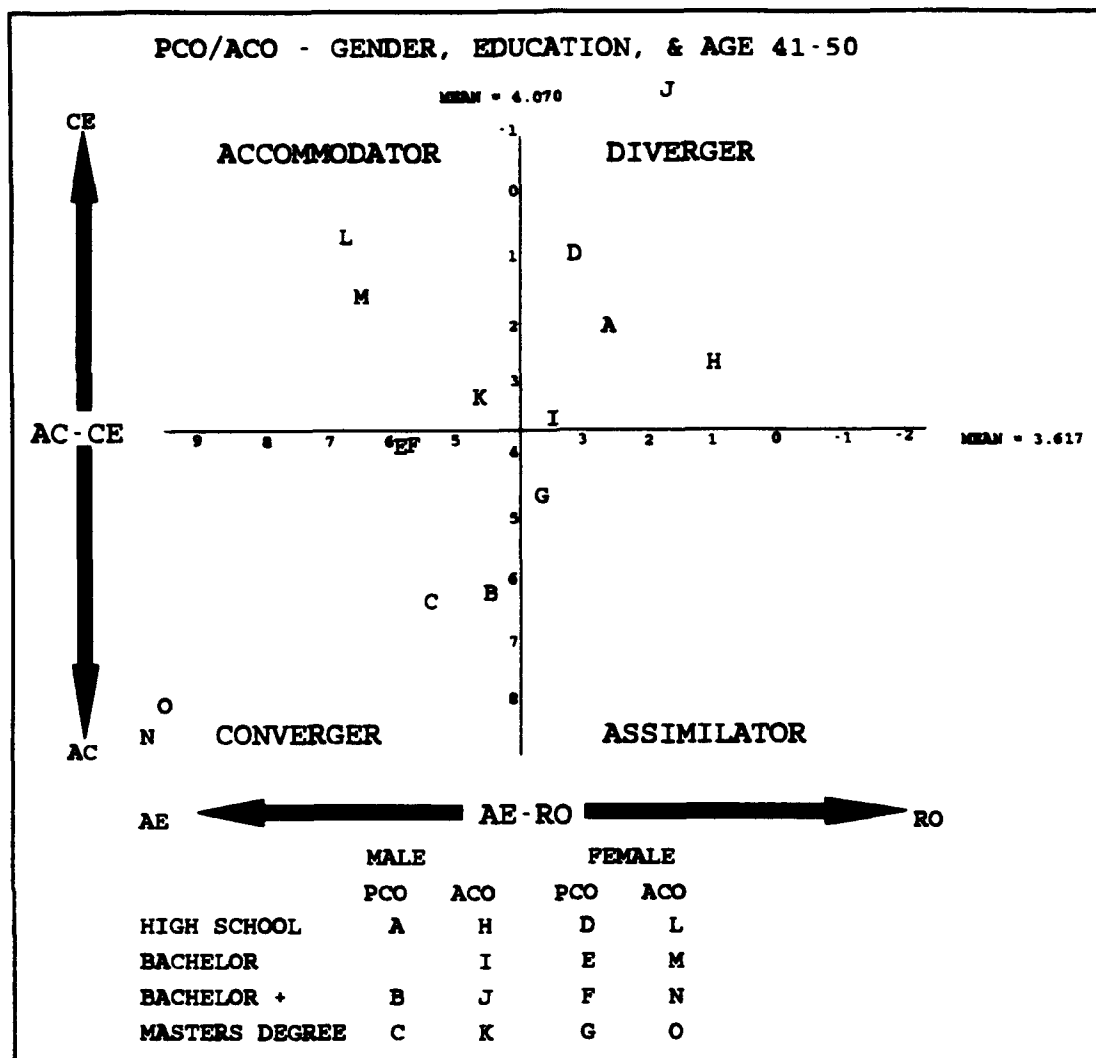
Because of the small ACO sample size, it is difficult to draw any significant conclusions from this breakdown. A larger sample size of ACOs with similar traits must be used to provide a more accurate comparison of the group breakdowns.

(2) Age 41-50

There were 163 Government negotiators that fell within the ages of 41 to 50. There were 57 male PCOs, 56 female PCOs, 37 male ACOs, and 13 female ACOs. Figure 14 illustrates the LSI Grid location of the group scores by level of education except for those with Associate's Degrees or Doctorates. Scores for the female ACO above the Bachelor's Degree plus additional education level, are suspect due to the small sample (one each) size.

Within this age category male PCOs move from the Diverger to the Converger learning style as education increases. There is significant movement on the AC-CE learning dimension between the High School, and Bachelor's degree plus, level of education.

The male ACO within this age group shows a strong tendency to favor concrete experience over the abstract. As their



**Figure 14.** LSI GRID - PCO/ACO SCORES BY GENDER, EDUCATION, & AGE 41-50

education increases they move more towards active experimentation, however they do not obtain a predominance of this learning characteristic until they obtain a Master's Degree. Their learning preference is opposite that of the male PCO on the AC-CE learning dimension. They become Accommodators at the Master's degree level favoring sensing and doing.

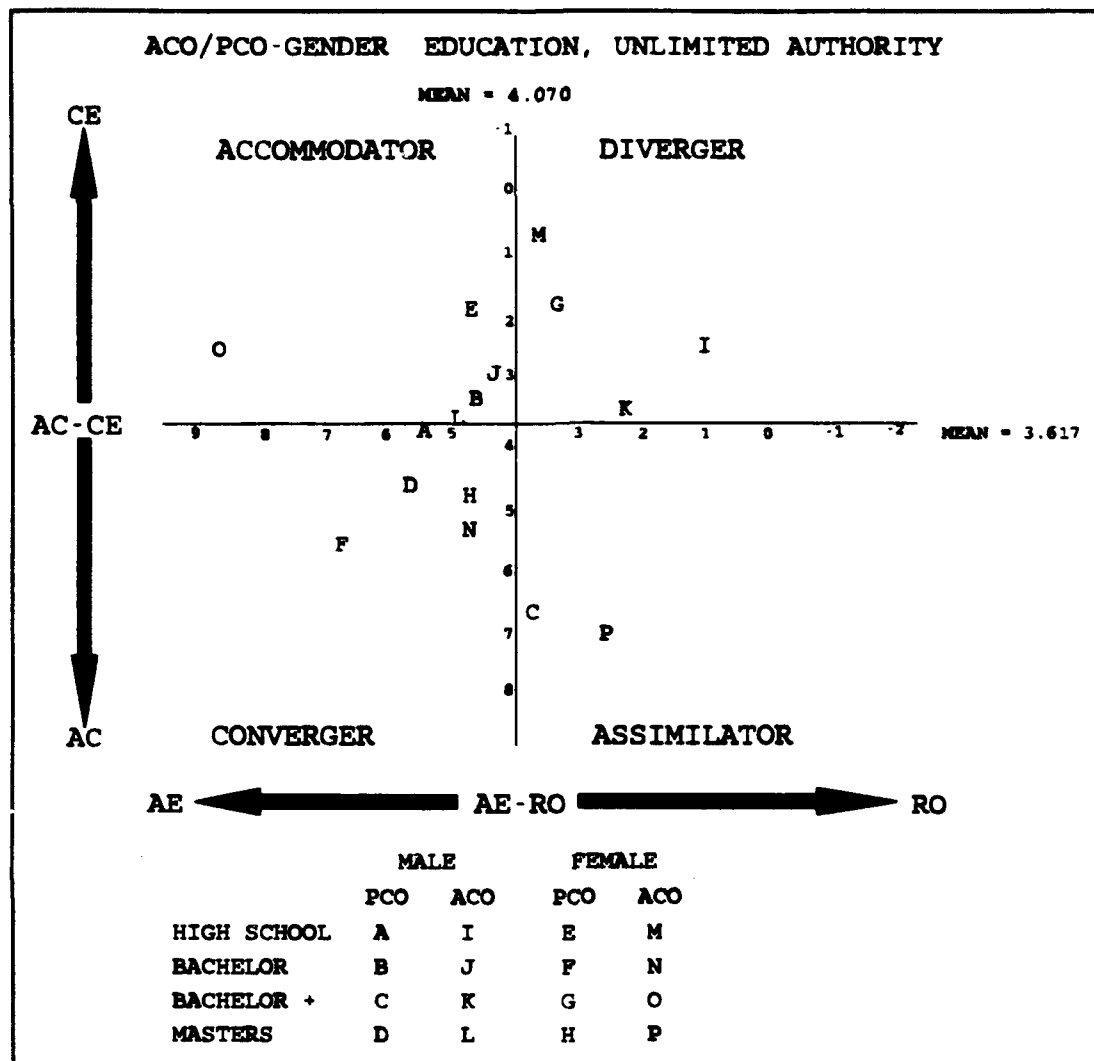
The female PCO shows a strong movement on the AC-CE dimension as the level of education increases. This is similar to the male PCO. However, they show a favoritism towards the Assimilator learning style once they have obtained a Master's Degree. This means they favor reflection and abstract skills, whereas the male PCO favors active and abstract skills.

The female ACO shows a strong partiality for activity throughout all levels of education. The major difference is in the shift from the concrete to abstract on the AC-CE dimension that occurs at the Bachelor's Degree plus level of education.

#### ***d. Gender, Education, & Negotiation Authority***

This subsection presents the predominant learning style of Government negotiators by gender, education and dollar value of negotiation authority. There are 275 (60%) of the 458 Government negotiators that have unlimited negotiation authority. There were 113 (41%) male PCOs, 72 (26%) female PCOs, 56 (21%) male ACOs, and 34 (12%) female ACOs with unlimited negotiation authority.

This subsection will limit the review of learning styles by negotiation authority to only those with unlimited authority because there were not enough negotiators within the other categories to allow for adequate comparison. There are over 63% within the male PCO category that have unlimited authority, 44% in the female PCO category, 77% in the male ACO category, and 81% in the female PCO category. Additionally,



**Figure 15.** LSI GRID - PCO/ACO SCORES BY GENDER, EDUCATION, & NEGOTIATION AUTHORITY

the review will focus only on those with a High School, Bachelor's, Bachelor's plus additional education, or Master's Degree. The other two categories did not contain enough survey scores to allow for adequate comparison. Figure 15 provides an illustration of the location of the LSI scores on the Kolb LSI Grid.

Both the male and female PCO with a High School education and unlimited negotiation authority favor the active experimentation learning trait. The male PCO falls in the Converger quadrant and has no major preference on the AC-CE dimension. They are only slightly biased towards the abstract. The female PCO falls in the Accommodator quadrant and leans strongly towards the concrete learning trait.

As the level of education increases to a Bachelor's degree, the learning preferences swap. The male PCO becomes an Accommodator and the female becomes a Converger. The male shows a slight shift towards both the concrete and reflective traits. The female shows a major movement along the AC-CE learning dimension towards the abstract, and an additional strengthening of the bias towards the active trait.

Both male and female PCOs again show a major shift in learning preference as education increases to a Bachelor's degree plus additional education level. Male PCOs continue the movement toward the reflective and show a strong inclination towards the abstract. They fall within the Assimilator quadrant at this level of education. The female PCO at this education level becomes a Diverger, which is totally opposite the position at the Bachelor's degree level. Finally, both male and female PCOs with Master's degrees return to the Converger quadrant.

Male ACOs move back and forth between the Accommodator and Diverger learning style. They show an inclination towards

concrete (sensing/feeling) in all four levels of education, but moved closer to the mean as education increased. The male PCO fluctuates widely on the AE-RO learning dimension. At the Master's degree level they fall within the Accommodator quadrant, but only have a slight bias towards the Concrete learning trait. There are no similarities to the female ACO. The female ACO fluctuated widely through the learning styles.

## **J. SUMMARY**

This chapter presented the predominant learning styles of 473 Government negotiators using the Kolb Learning Style Inventory. Negotiators LSI scores were plotted on the Kolb LSI Grid to determine their predominant learning style. The four styles are Accommodator, Diverger, Assimilator, and Converger. Government Negotiator LSI scores were first examined by gender, age, negotiation and contracting experience, position, and negotiation authority. Finally, a closer examination of the PCO and ACO was undertaken by combining several of the different demographic factors.

Chapter V will explore the predominant learning styles of the 153 Industry Learning Style Inventory survey respondents, to facilitate a comparison of the differences between Government and Industry in Chapter VI. Additionally, Chapter VI will present an analysis of trends, differences, and similarities of the Government negotiator.

## **V. LEARNING STYLES OF INDUSTRY NEGOTIATORS**

### **A. INTRODUCTION**

This chapter presents and analyzes data concerning Industry negotiator learning styles. A total of 153 responses from Industry negotiators are used to delineate predominant learning styles. The data are first presented by major demographic category (age, gender, education, contracting experience, negotiation experience, and dollar value of negotiation authority) then are examined by several different combinations of these categories.

### **B. AGE**

Out of the 153 respondents, nine (5.9%) were from age group 20-30, 46 (30.1%) were from age group 31-40, 61 (39.9%) were from age group 41-50, 29 (19%) were from age group 51-60, and eight (5.2%) were age 61 or older. Table XIII illustrates the LSI mean scores of Industry contract negotiators. Figure 16 displays where the mean scores for each age group are located on the Kolb LSI Grid.

Industry negotiators between the ages of 20-30 fall within the Diverger quadrant of the LSI Grid. They have a very strong preference towards reflective observation on the AE-RO learning dimension. They also display the strongest preference towards concrete experience of the five age groups.

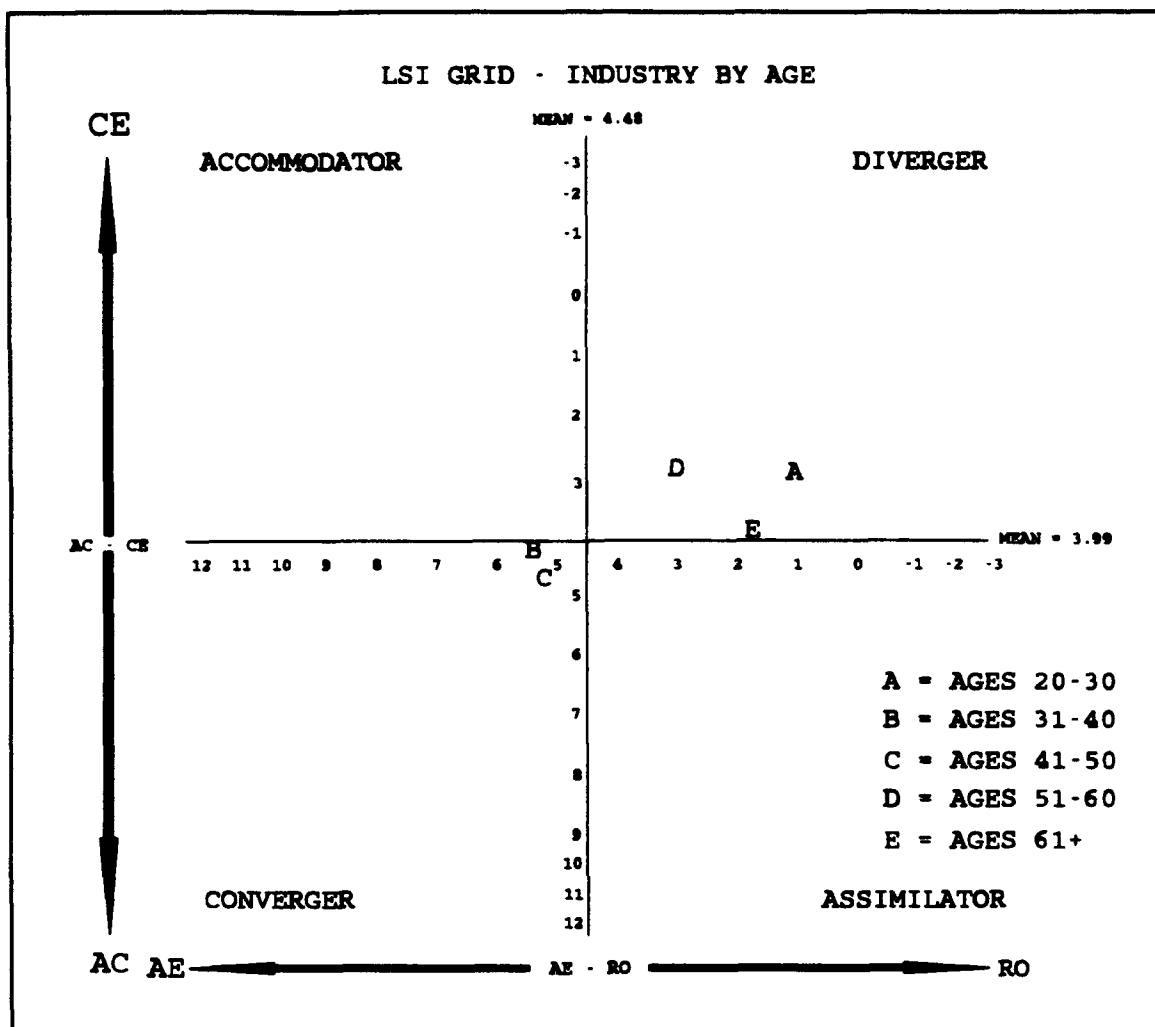


**Table XIII. INDUSTRY LSI SCORES - AGE**

GROUP	CE MEAN	RO MEAN	AC MEAN	AE MEAN	AC-CE MEAN	AE-RO MEAN
20-30	14.78	14.33	17.67	15.33	2.89	1.00
31-40	13.87	11.85	17.98	17.28	4.11	5.39
41-50	13.59	12.57	18.20	17.84	4.62	5.26
51-60	14.66	13.10	17.52	16.21	2.86	3.07
61+	13	14	16.88	15.88	3.88	1.88
MEAN	13.92	12.63	17.90	17.11	3.99	4.48

As the Industry negotiator ages he displays a movement towards both active and abstract learning traits. Both age group 31-40 and 41-50 migrate into the Converger learning style quadrant. Both age groups only slightly favor abstract (thinking) over concrete (sensing/feeling) traits. However, age group 41-50 favors the abstract slightly more than age group 31-40 indicating a continued trend towards thinking as the negotiator ages. There is a major shift from reflective observation to favoring the active experimentation trait on the AE-RO learning dimension for age group 31-40. Age group 41-50 also retains a favoritism for activity, but is slightly less biased.

As the aging process continues the Industry negotiator does an about face and returns to favoring the Diverger learning style. Once the negotiators reach age 51-60, they once again reveal a major shift on the AE-RO learning



**Figure 16.** INDUSTRY LSI GRID - AGE

dimension in favor of the reflective observation learning trait. They also show a significant drift towards favoring concrete learning abilities. The group of negotiators over 61 remains in the Diverger quadrant with a strong inclination for reflective observation. They have only a slight bias for concrete experience at this age.

The movement of the group is only between the Diverger and Converger learning quadrants when these data are reviewed by

age. These two learning styles are considered to be polar opposites.

### C. GENDER

Of the 153 Industry negotiators that responded to the survey, there were 113 (73.9) males and 40 (26.1%) females. The mean scores of the two groups and the mean average score

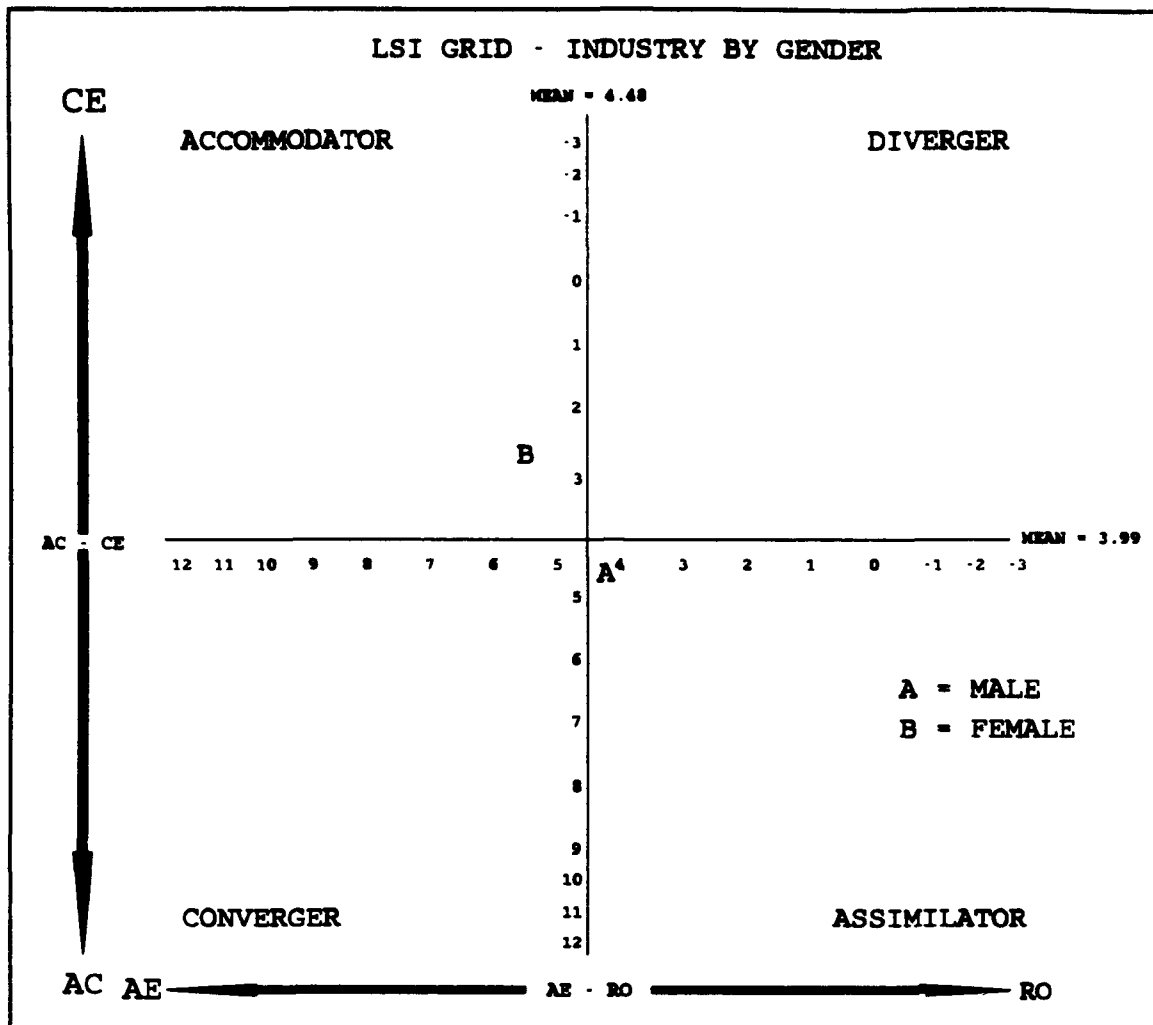
**Table XIV. INDUSTRY LSI SCORES - GENDER**

GROUP	CE MEAN	RO MEAN	AC MEAN	AE MEAN	AC-CE MEAN	AE-RO MEAN
MALE	13.67	12.83	18.15	17.05	4.48	4.22
FEMALE	14.6	12.08	17.2	17.28	2.60	5.20
MEAN	13.92	12.63	17.90	17.11	3.99	4.48

are provided in Table XIV. Figure 17 provides an illustration of male and female LSI scores on the Kolb LSI Grid.

The male and female Industry negotiators fall into different learning style quadrants. The males' LSI scores position them into the Assimilator quadrant and the females' scores place their group into the Accommodator quadrant. As with age, when evaluating the scores by gender, the scores position the male and female as polar opposites.

The male Industry negotiators dominant learning trends are the reflective observation (watching) and the abstract conceptualization (thinking) traits. The Assimilator is



**Figure 17. INDUSTRY LSI GRID - GENDER**

suppose to be best in inductive reasoning and in integrating dissimilar observations into consolidate logical explanations. The male demonstrates a larger preference on the AC-CE learning dimension towards the abstract trait. They show only a minor bias towards reflective traits.

The female negotiator falls within the Accommodator learning style quadrant. Accommodators favor concrete experience and active experimentation. This means that females

prefer hands on experience, getting involved, and doing things. The female negotiator shows a major preference towards the concrete (sensing/feeling) and a slightly lesser preference towards the active (doing trait).

#### **D. EDUCATION**

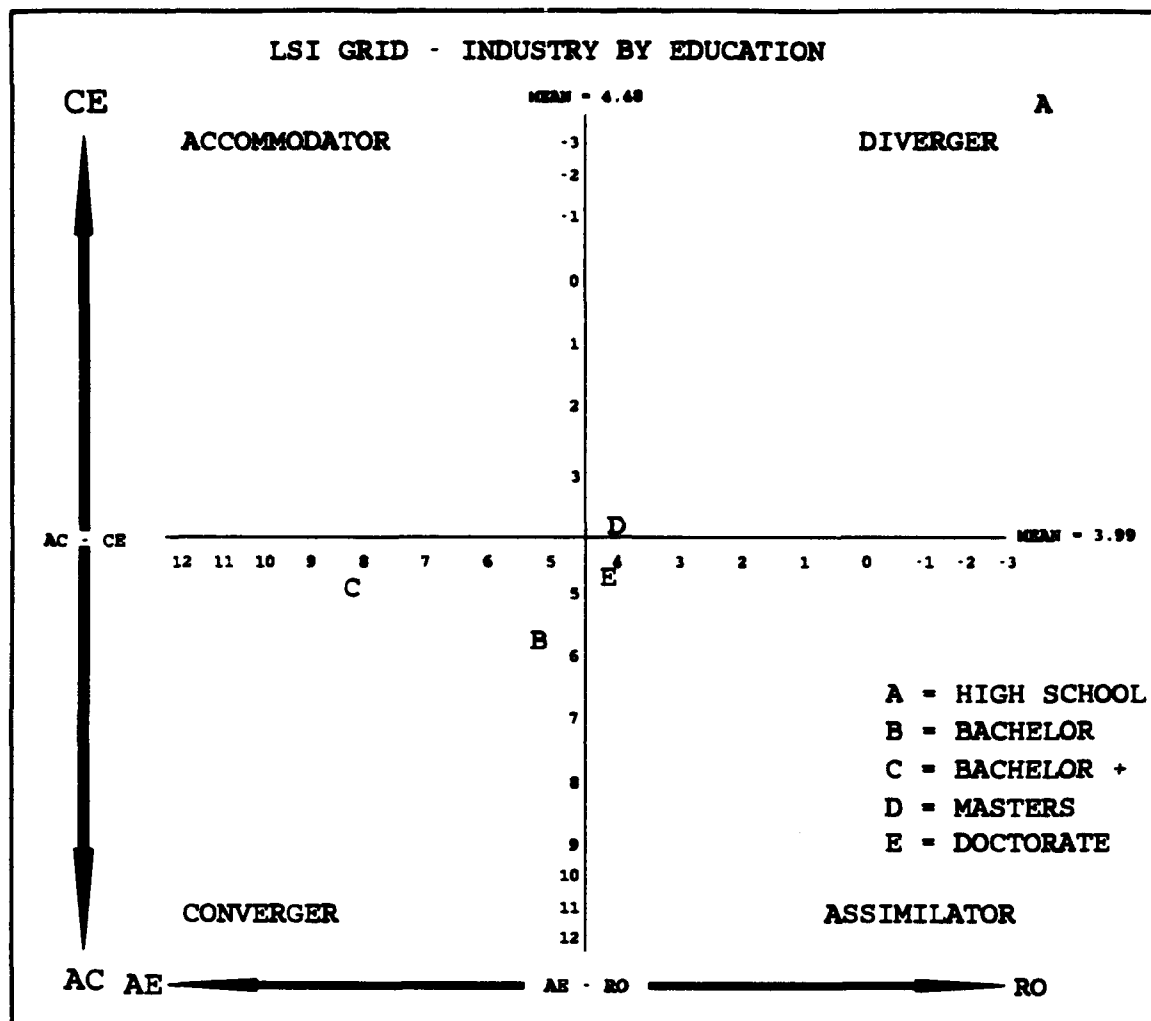
The 153 Industry responses to the survey consisted of 11 (7.2%) respondents with only a High School education, 47 (30.7%) respondents with a Bachelor's Degree, 21 (13.7%) of the respondents had Bachelor's Degrees plus additional education in pursuit of a Master's Degree, 59 (38.6%) had obtained Master's Degrees, and 15 (9.8%) had achieved Doctorate Degrees.

**Table XV. INDUSTRY LSI SCORES - EDUCATION**

GROUP	CE MEAN	RO MEAN	AC MEAN	AE MEAN	AC-CE MEAN	AE-RO MEAN
HIGH SCHOOL	17.10	16.91	12.00	13.46	-5.09	-3.46
BACHELOR	13.23	11.89	18.98	17.21	5.72	5.32
BACHELOR +	13.57	11.10	18.57	19.38	5.00	8.29
MASTERS	14.05	12.81	17.80	16.83	3.78	4.03
DOCTORATE	13.67	13.27	18.33	17.40	4.67	4.13
MEAN	13.92	12.63	17.90	17.11	3.99	4.48

The mean scores of the five education categories of Industry negotiators are illustrated in Table XV. There were no responses received for negotiators with Associate Degrees.

The mean scores for the five groups are illustrated on the LSI Grid in Figure 18.



**Figure 18:** INDUSTRY LSI GRID - EDUCATION

The level of education indicates that Industry negotiators experience major changes in their preferences on the AC-CE learning dimension as they age. There is a major shift from reflection (RO) to activity (AE) when the negotiator achieves a Bachelor's Degree or Bachelor's Degree plus, level of education. However as the education increases to graduate level the preference shifts back towards reflection on the AE-

RO learning dimension. There is only slight movement on the AC-CE learning dimension once the negotiator has achieved a college education.

Industry negotiators with a High School level of education are very strongly oriented to the Diverger learning style. They have a well-defined preference for concrete experience and reflective observation.

Negotiators with Bachelor's Degrees fall within the Converger quadrant. They show the strongest preference towards abstract conceptualization learning traits among Industry negotiators. Additionally their preference for thinking (AC) outweighs their activity (AE) learning trait. As the education level increases to the Bachelor's Degree plus, the learning style shifts within the Converger quadrant. The predominant learning trait shifts to active experimentation vice abstract conceptualization.

Industry negotiators with Master's Degrees are situated back within the Diverger learning quadrant. They are located close to the mean of the group. They have only a slight bias towards concrete experience and reflective observation. However, the shift from the location at the Bachelor's Degree plus level of education, on the AE-RO learning dimension towards reflective observation was significant.

Industry negotiators with Doctorate Degrees are Assimilators. They favor observation (RO) and thinking (AC) learning skills. Their characteristics vary only slightly from

negotiators with a Master's Degree. The score on the AE-RO learning dimension exhibits almost no change. The AC-CE score moves enough towards favoring the use of abstract learning skills that it results in a change in learning style preference.

## **E. CONTRACTING EXPERIENCE**

A significant majority of Industry negotiators have a considerable amount of contracting experience. There are three (2%) Industry negotiators with less than two years experience, 17 (11%) negotiators with three to five years experience, 36 (23.5%) with six to 10 years experience, 57 (37.3%) with 10-20 years negotiation experience, and 40 (26.1%) with over 20 years.

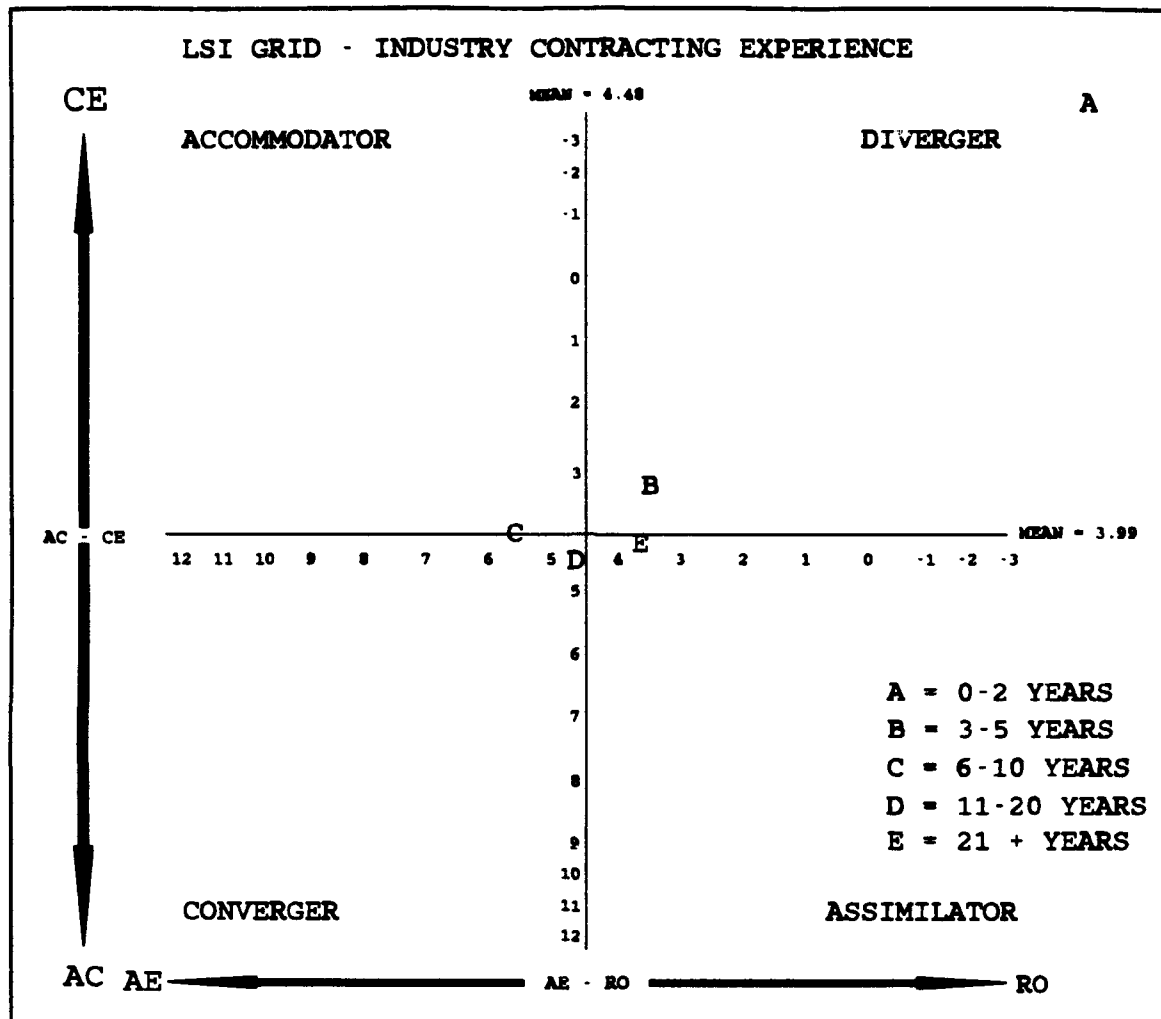
**Table XVI. INDUSTRY LSI SCORES - CONTRACTING EXPERIENCE**

GROUP	CE MEAN	RO MEAN	AC MEAN	AE MEAN	AC-CE MEAN	AE-RO MEAN
< 2	18.67	19.67	13.00	11.33	-5.67	-8.33
3- 5	14.35	12.82	17.65	16.41	3.29	3.59
6-10	14.08	12.58	18.06	18.22	3.97	5.64
10-20	13.75	12.53	18.28	17.21	4.53	4.68
> 21	13.48	12.98	17.70	16.70	4.23	3.72
MEAN	13.92	12.63	17.90	17.11	3.99	4.48

Table XVI illustrates the mean LSI scores of the 153 Industry negotiator respondents by years of contracting



experience. Figure 19 depicts the mean scores on the Kolb LSI Grid.



**Figure 19.** INDUSTRY LSI GRID - CONTRACTING EXPERIENCE

Only 13% of the Industry negotiators have less than five years contracting experience. This is probably because industry trains very few of their own negotiators. Government contracting is very complex and regulated, requiring an above average skill level. Because of these difficulties, many of these industry negotiators are probably former Government employees or people that gained experience in other private

companies that contracted with the Government. Industry that deals with Defense related procurement hires numerous departing Military and Civil Service contracting specialists. The data show that as Industry negotiators gain experience they become more oriented towards abstract (thinking) skills. With the exception of those few Industry negotiators with less than two years contracting experience, all the other groups are aligned closely around the mean in a counter clockwise fashion.

Industry negotiators with less than two years are Divergers and are very strongly skewed towards the reflective and concrete learning traits. They learn by watching, listening, sensing, and interpreting specific experiences. They choose to try to understand people. Only three responses were received within this category of contracting experience so the results could be suspect.

Negotiators with three to five years contracting experience are also Divergers. They are located much closer to the mean indicating that their preference for reflective observation and concrete experience are only slightly more pronounced than their preference for the other two learning traits. They have a slightly stronger bias for watching (RO) over sensing (CE).

Negotiators with six to ten years contracting experience are Accommodators. They display a very minute preference for concrete (CE) learning traits and a slight

preference for activity (AE). Those with 10 to 20 years experience are Convergers with a moderate preference for the abstract but with only a slight bias for activity. Finally, negotiators with over 21 years of experience become Assimilators with a moderate preference for reflection and a slight bias for the abstract.

#### **F. NEGOTIATION EXPERIENCE**

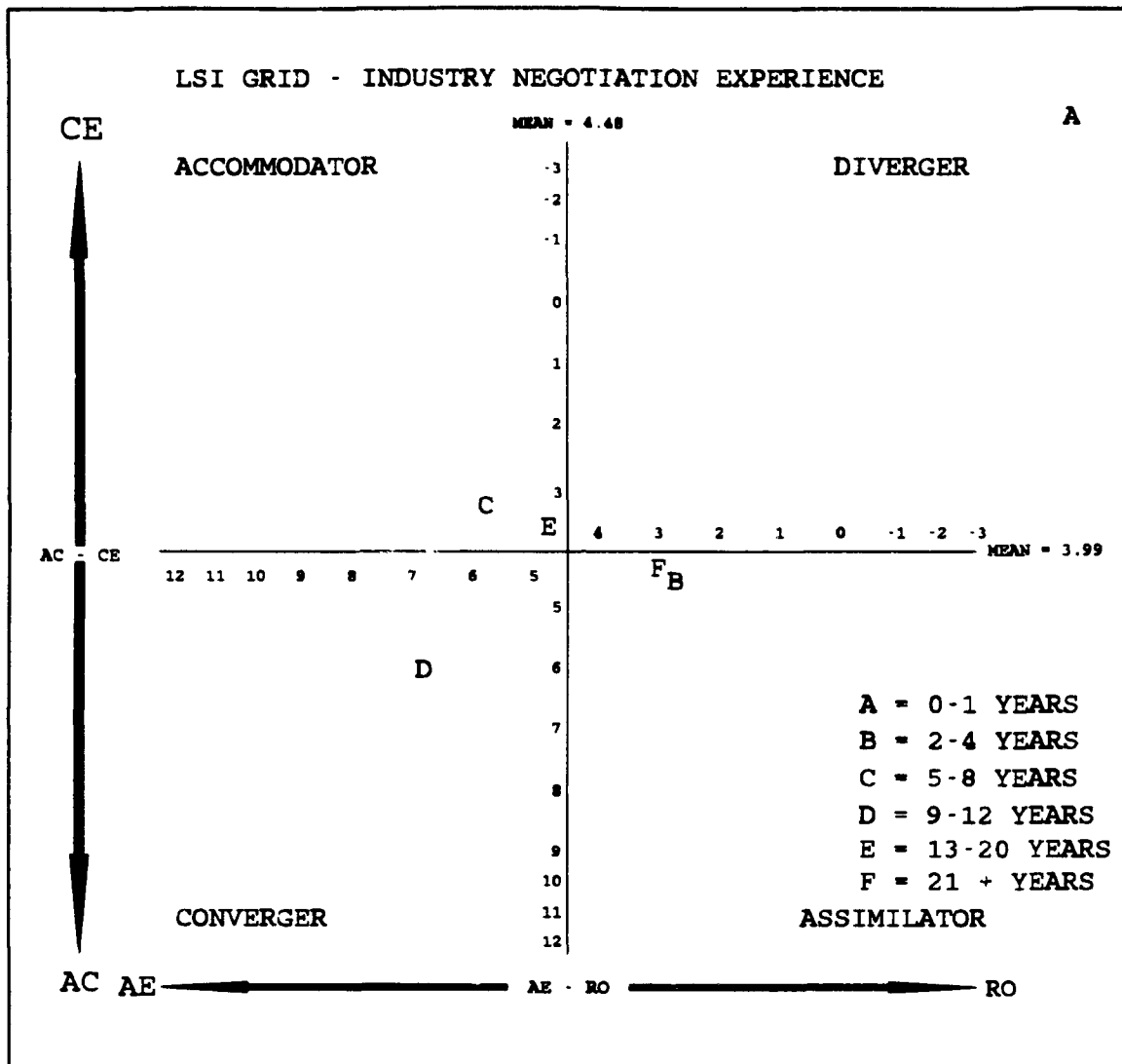
Table XVII illustrates the mean Learning Style Inventory scores of the 153 Industry negotiators by years of negotiation experience. There were three (2%) negotiators with less than

**Table XVII. INDUSTRY LSI SCORES - YEARS CONTRACTING EXPERIENCE**

GROUP	CE MEAN	RO MEAN	AC MEAN	AE MEAN	AC-CE MEAN	AE-RO MEAN
< 1	18.67	19.67	13.00	11.33	-5.67	-8.33
2-4	14.20	13.47	18.73	16.13	4.53	2.67
5-8	14.46	12.04	17.62	17.92	3.15	5.89
9-12	12.57	11.37	18.53	18.27	5.97	6.90
13-20	14.33	12.36	17.87	17.27	3.53	4.91
> 21	13.54	13.49	17.69	16.49	4.14	3.00
MEAN	13.92	12.63	17.90	17.11	3.99	4.48

one year negotiation experience, 15 (9.8%) with two to four years negotiation experience, 26 (17%) with five to eight years experience, 30 (19.6%) with nine through 12 years

experience, 44 (28.7%) with 13 through 20 years experience, and 35 (22.2%) years negotiation experience.



**Figure 20. INDUSTRY LSI GRID - YEARS NEGOTIATION EXPERIENCE**

The experience level indicates a very mature and seasoned Industry workforce. Over 87% of the workforce has over five years of negotiation experience, and over 70% has over nine years of experience. The LSI scores of the six groups are plotted on the LSI Grid in Figure 20.

Industry negotiators with less than three years negotiation experience have very pronounced preferences towards reflective observation and concrete experience. They are located extremely far from the mean in the Diverger quadrant.

Industry negotiators with two through four years negotiation experience fall within the Assimilator learning quadrant of the LSI Grid. They prefer the reflective observation learning trait, but their preference is much less pronounced than the negotiators with less than one year experience. The group makes a significant change on the AC-CE learning dimension by shifting emphasis from the concrete to the abstract. The group possesses a minor bias for thinking.

Industry negotiators begin to prefer active experimentation from their fifth through twentieth year of negotiation experience. The preference on the AC-CE learning dimension varies. Negotiators with five through eight years experience fall within the Accommodator learning style. They exhibit almost an equal bias for both of the learning traits within the Accommodator learning style. They prefer sensing/feeling and doing.

When the experience level reaches the ninth through twelfth year the Industry negotiator shifts into the Converger quadrant. They display a significant shift on the AC-CE learning dimension towards the abstract learning trait and an

additional minor move on the AE-RO leaning dimension towards activity.

The Industry negotiator then shifts back into the Accommodator quadrant when negotiation experience is between thirteen and twenty years. The group shows an equal preference on both learning dimensions and is located very close to the mean. Finally, the group of Industry negotiators with more than twenty-one years of negotiation experience fall into the Assimilator quadrant. They show a major change on the AE-RO learning dimension as they shift to preferring reflection. They have only a slight movement towards abstract traits on the AC-CE learning dimension.

#### **G. NEGOTIATION AUTHORITY**

This grouping examines the breakdown of learning styles by Industry contract negotiators based upon the dollar value of contracts they are authorized to negotiate with the Government. Table XVIII illustrates the mean scores of six groups broken down by increasing thresholds of negotiation authority. The mean LSI scores for negotiation authority are illustrated on the LSI Grid in Figure 21.

Within this grouping there were two (1.3%) with negotiation authority less than \$25,000, six (3.9%) negotiators with authority that ranged from \$25,000 to \$500,000, seven (4.6%) with \$500,000 to \$1,000,000 negotiation authority, nine (5.9%) with authority that ranged from

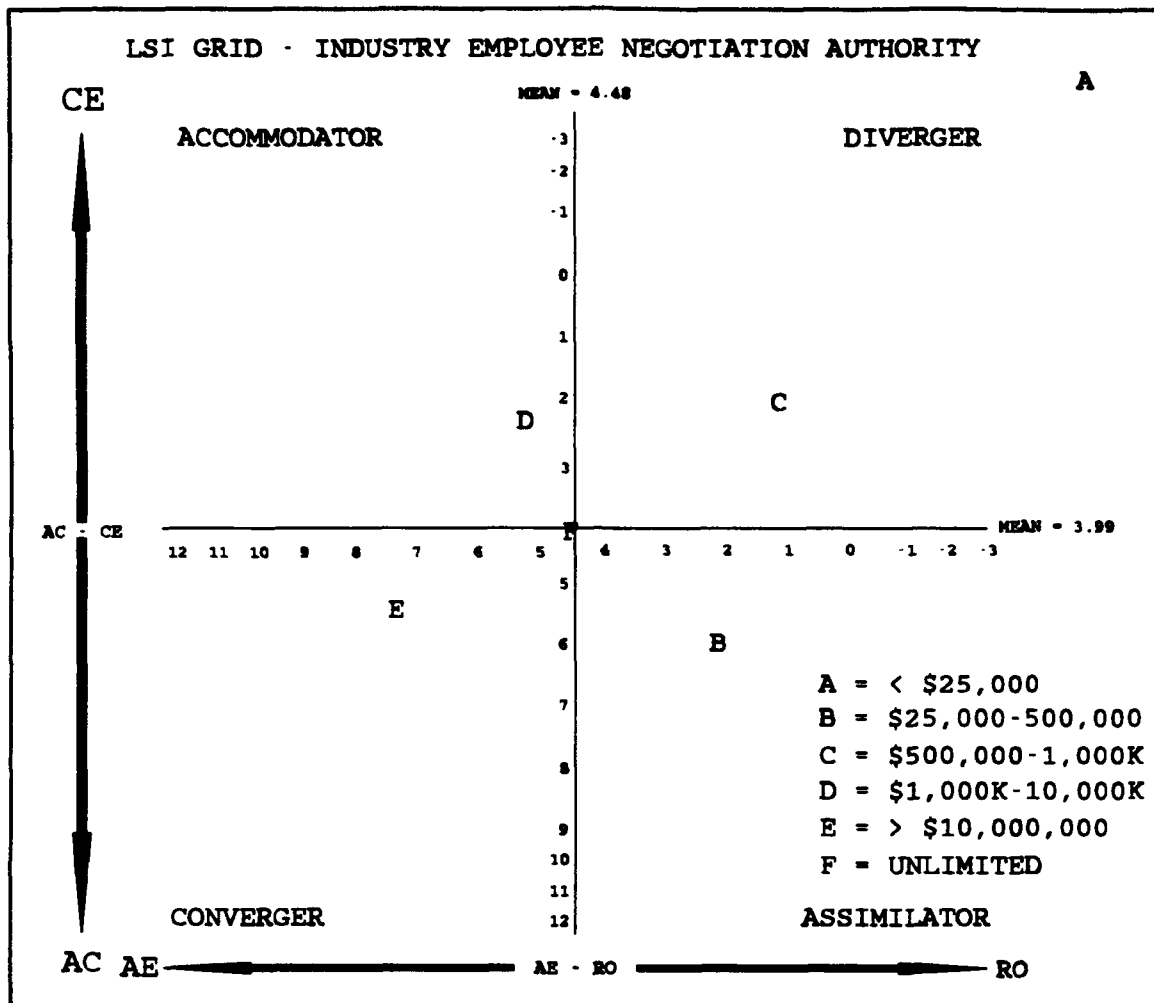
**Table XVIII. INDUSTRY LSI SCORES - NEGOTIATION AUTHORITY**

MEAN	CE MEAN	RO MEAN	AC MEAN	AE MEAN	AC-CE MEAN	AE-RO MEAN
< \$25,000	18.00	20.00	13.00	11.00	-5.00	-9.00
25-500K	13.67	13.50	19.67	15.67	6.00	2.17
500-1000K	15.43	14.14	17.43	15.71	2.00	1.57
1000-10000K	14.33	12.89	16.78	18.22	2.44	5.33
>10,000K	12.67	11.80	18.20	19.13	5.53	7.33
UNLIMITED	13.90	12.46	17.94	17.03	4.04	4.57
MEAN	13.92	12.63	17.90	17.11	3.99	4.48

\$1,000,000 to \$10,000,000, 15 (9.8%) with negotiation authority greater than \$10,000,000, and 114 (74.5%) Industry negotiators with the authority to negotiate Government contracts for any price.

A very large majority (74.5%) of Industry negotiators are authorized to negotiate contracts for any price. Less than 10% are restricted to negotiating contracts for less than \$1,000,000. In a later subsection this research will examine negotiation authority in relationship to education and gender.

The 16 (9.8%) Industry negotiators with negotiation authority under \$1,000,000 all favor the reflective observation (RO) learning trait. The group with under \$25,000 contract negotiation authority are strong Divergers. There is a significant change along the AC-CE learning dimension when negotiation authority is increased to \$25,000 through \$500,000. There is a significant shift along both learning



**Figure 21. INDUSTRY LSI GRID - NEGOTIATION AUTHORITY**

dimensions, however the shift on the AC-CE dimension moves this group into the Assimilator quadrant as they favor abstract learning traits. The predominant learning style shifts back to the Diverger quadrant when the negotiation authority is increased to \$500,000 through \$1,000,000. There is a very insignificant change on the AE-RO learning dimension, however the shift is substantial as the preference moves back to sensing/feeling (CE) learning traits.



When the Industry negotiator's authority exceeds \$1,000,000, the learning preference shifts significantly on the AE-RO learning dimension becoming biased for active experimentation (doing) learning trait. The LSI scores for the group with \$1 million to \$10 million negotiation authority correspond to the Accommodator learning style. They still maintain a preference for the concrete learning trait but have shifted significantly towards favoring activity. The group with negotiation authority greater than \$10 million are Convergents. They favor activity (AE) more than any other group and have a very strong preference for the abstract learning.

The largest group (74.5%) of Industry negotiators have unlimited authority and are Convergents. They fall very close to the mean of the entire group on both the AC-CE and AE-RO learning dimensions. They prefer doing and thinking.

#### **H. MISCELLANEOUS DATA GROUPINGS**

Sections B through G provided an examination of the 153 Industry negotiator responses by reviewing learning styles by the demographic data requested on the survey. This section will consider several specific combinations of the data to further examine the learning styles of Industry negotiators.

The examination will commence by examining the Industry negotiator learning styles by gender and level of education. Next, the learning styles will be reviewed by gender, level of education, and age. Finally, they will be examined by gender,

**Table XIX. SURVEY PERCENTAGES AND LSI DIMENSION SCORES**

GROUP - GENDER	NUMBER	%	AC-CE	AE-RO
MALE	113	73.9	4.48	4.22
FEMALE	40	26.1	2.60	5.20
<b>AGE</b>				
20-30	9	5.9	2.89	1.00
31-40	46	30.1	4.11	5.39
41-50	61	39.9	4.62	
51-60	29	19.0	2.86	3.07
60 +	8	5.1	3.88	1.88
<b>EDUCATION</b>				
HIGH SCHOOL	11	7.2	-5.09	-3.46
BACHELOR DEGREE	47	30.7	5.72	5.32
BACHELOR PLUS	21	13.7	5.00	8.29
MASTERS DEGREE	59	38.6	3.78	4.03
DOCTORATE	15	9.8	4.67	
<b>CONTRACTING EXPERIENCE</b>				
0-2 YEARS	3	2.0	-5.67	-8.33
3-5 YEARS	17	11.1	3.29	3.59
6-10 YEARS	36	23.5	3.97	5.64
11-20 YEARS	57	37.3	4.53	4.68
20 + YEARS	40	26.1	4.23	3.73
<b>NEGOTIATION EXPERIENCE</b>				
0-1 YEARS	3	2.0	-5.67	-8.33
2-4 YEARS	15	9.8	4.53	2.67
5-8 YEARS	26	17.0	3.15	5.89
9-12 YEARS	30	19.6	5.97	6.90
13-20 YEARS	44	28.7	3.53	4.91
21 + YEARS	35	22.9	4.14	3.00
<b>NEGOTIATION AUTHORITY</b>				
< \$25,000	2	1.3	-5.00	-9.00
\$25,000-\$500,000	6	3.9	6.00	2.17
\$500K-\$1 MILLION	7	4.6	2.00	1.57
\$1 - \$10 MILLION	9	5.9	2.44	5.33
> \$10,000,000	15	9.8	5.33	7.33
UNLIMITED	114	74.5	4.04	4.57
<b>INDUSTRY TOTAL/MEAN</b>	<b>153</b>	<b>100%</b>	<b>3.99</b>	<b>4.48</b>

education, and negotiation authority.

As with the Government data in Chapter IV, there are unlimited combinations of the data that can be analyzed. This study will defer further examination of Industry negotiators by negotiation experience, contracting experience, negotiation training, and other combinations thereof, to follow-on research efforts. Because there were so few respondents that indicated that they were Certified Professional Contracts Managers (CPCM), a comparison between Industry CPCMs and non CPCMs will not be accomplished.

Table XIX is provided to assist the reader in determining the size and percentage of the response group, and to illustrate why certain demographic combinations were investigated. It provides a detailed breakdown of each of the demographic categories by number of LSI survey respondents, percentage of the group, the Abstract Conceptualization/Concrete Experience (AC-CE) learning dimension scores, and the Active Experimentation/ Reflective Observation (AE-RO) learning dimension scores.

#### **1. Gender and Education**

This subsection discusses learning styles of the 153 Industry negotiator respondents when LSI scores are examined by gender and education level. Table XX provides a breakdown of the number of Industry LSI respondents by gender and level of education. Table XXI provides the mean LSI scores for the

**Table XX.** INDUSTRY LSI  
RESPONDENTS BY GENDER & EDUCATION

	MALE	FEMALE
HIGH SCHOOL	4	7
BACHELOR	34	12
BACHELOR +	15	7
MASTERS	48	11
DOCTORATE	12	3
TOTAL	113	40

group. Finally, LSI scores are plotted on the LSI grid in Figure 22.

The level of education of Industry negotiators is extremely high. Only 11 (7.2%) of the survey respondents have less than a Bachelor's Degree. These

eleven male and female Industry negotiators with High School educations are Divergers. They have a very strong inclination for concrete and reflective learning traits.

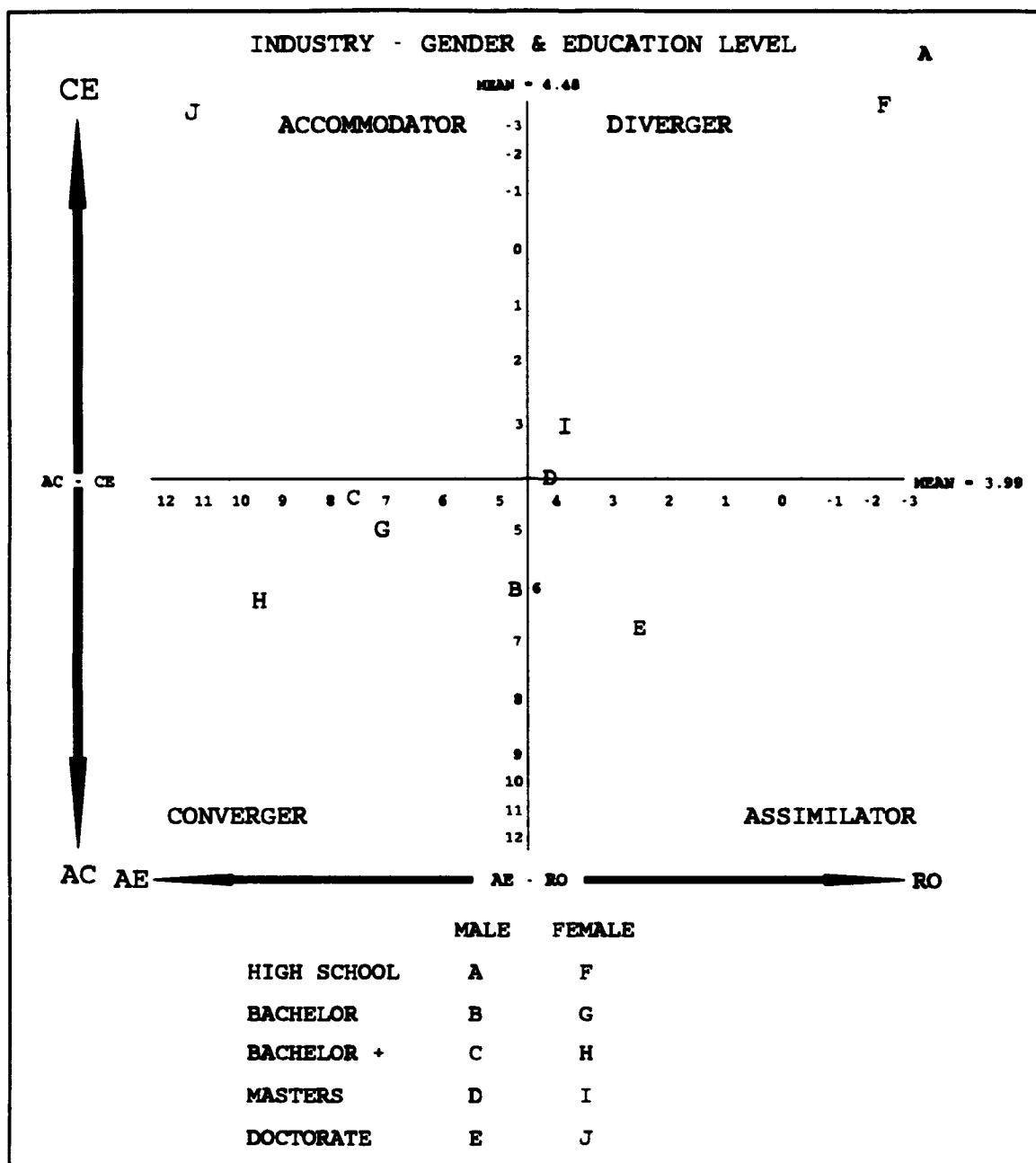
As education increases to the Bachelor's degree level the learning style shifts significantly for both the male and female Industry negotiator. They both shift into the Converger learning style quadrant. The

**Table XXI.** INDUSTRY LSI SCORES - GENDER & EDUCATION

EDUCATION	GROUP	AC-CE	AE-RO
HIGH SCHOOL	MALE	-8.00	-5.50
	FEMALE	-3.43	-2.29
BACHELOR	MALE	5.97	4.76
	FEMALE	5.00	7.00
BACHELOR PLUS	MALE	4.40	7.60
	FEMALE	6.29	9.57
MASTERS	MALE	3.90	4.10
	FEMALE	3.09	3.82
DOCTORATE	MALE	6.67	2.42
	FEMALE	-3.33	11.00
MEAN		3.71	4.19

male shows a stronger affinity for abstract conceptualization

and the female shows a more pronounced leaning for active experimentation.



**Figure 22.** INDUSTRY LSI GRID - GENDER & EDUCATION

Both male and female Industry negotiators are also Convergents at the Bachelor's Degree plus, level of education.

The female preference for both the active experimentation and abstract conceptualization learning traits becomes more pronounced. They show a significant increased preference for activity and a minor move towards abstract learning traits. The male Industry negotiators shifts within the Converger learning quadrant. They exhibit a stronger emphasis for active experimentation and less bias for abstract conceptualization learning traits.

The attainment of a Master's degree causes the learning preference to shift into the Diverger learning quadrant for both male and female negotiators. The male shows only a minuscule shift towards concrete experience but a large shift towards reflective observation. Their location on the LSI Grid places them closer to the center of the group mean than any other group. The female shows significant movement to their location. The most pronounced movement is away from activity towards reflection.

Learning styles were the same for both the male and female Industry negotiator, for all levels of education, except for those possessing Doctorates. The male is an Accommodator and the female is an Assimilator. The male has a strong emphasis for thinking and watching, and the female has a exceptionally strong emphasis for watching and doing.

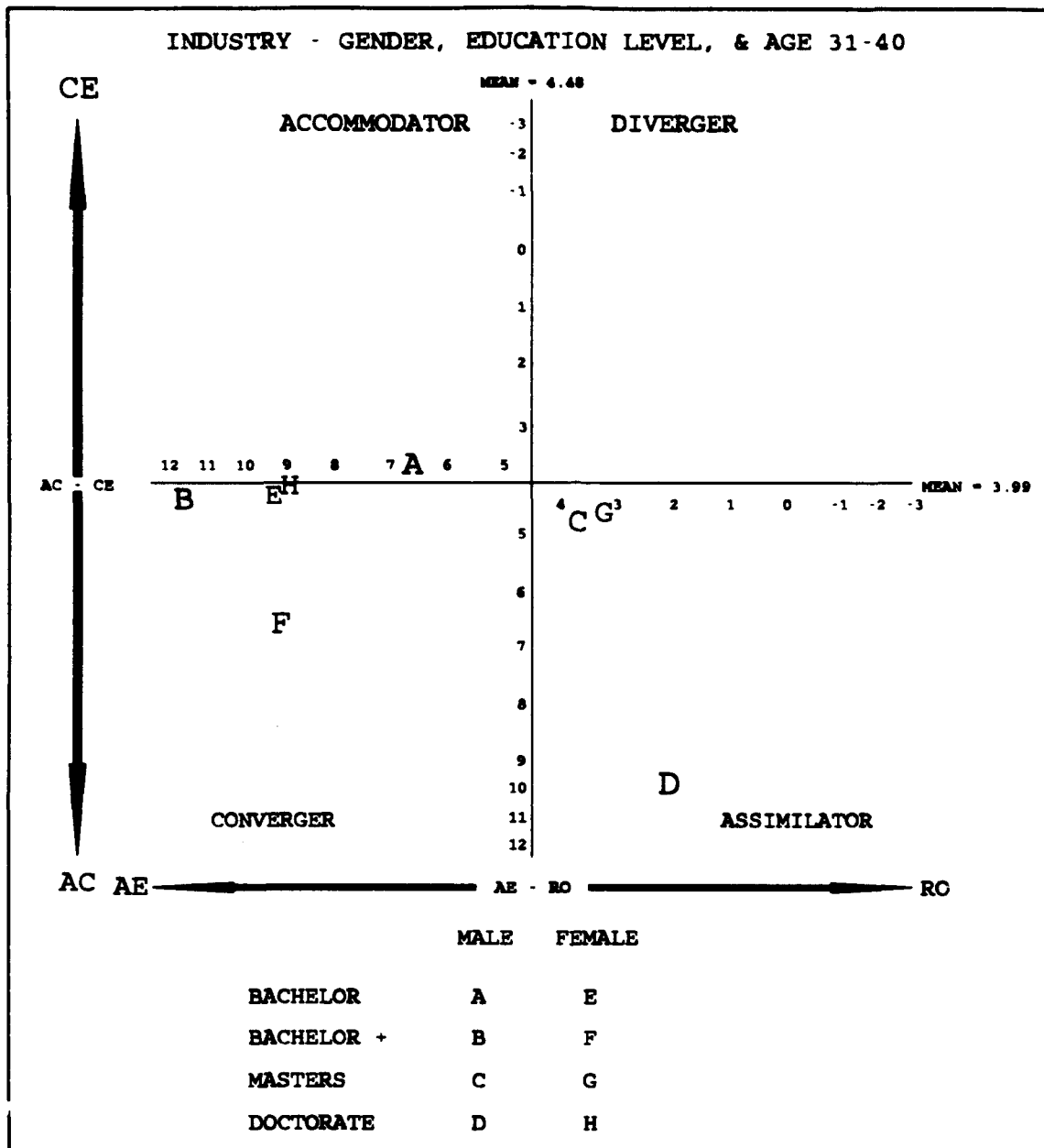
## **2. Gender, Education, & Age**

This subsection will examine the learning styles of the Industry negotiator by combining gender, education, and age of the respondents. A breakdown will not be provided to show the number of respondents in each category. This analysis will be limited to an examination of age groups 31-40 and 41-50 for Industry negotiators with a Bachelor's Degree, Bachelor's Degree plus, Master's Degree or Doctorate. There were insufficient responses to allow for a comparison of the other possible combinations of gender, age, and education. The learning preferences of the two age groups will be illustrated on the Kolb LSI Grid.

### **a. Age 31-40**

There were 46 Industry negotiators that fell within the age category 31-40. This group consisted of 28 males and 18 females. Figure 23 provides an illustration of where the respondents' learning dimension scores are located on the LSI Grid.

The examination of the learning styles of male and female Industry negotiators in this category reveals very similar learning preferences for all but the Doctorate level of education. With the exception of males with Bachelor's Degrees, all other groups prefer abstract conceptualization (thinking) over concrete experience (watching). The males with Bachelor's Degrees were located only one tenth of a point away



**Figure 23.** INDUSTRY LSI GRID - GENDER, EDUCATION, & AGE 31-40 from the mean, indicating a very slight bias for concrete learning traits.

There is a larger difference on the AE-RO learning dimension with three groups preferring reflection, and five groups preferring activity. Both the male and female with



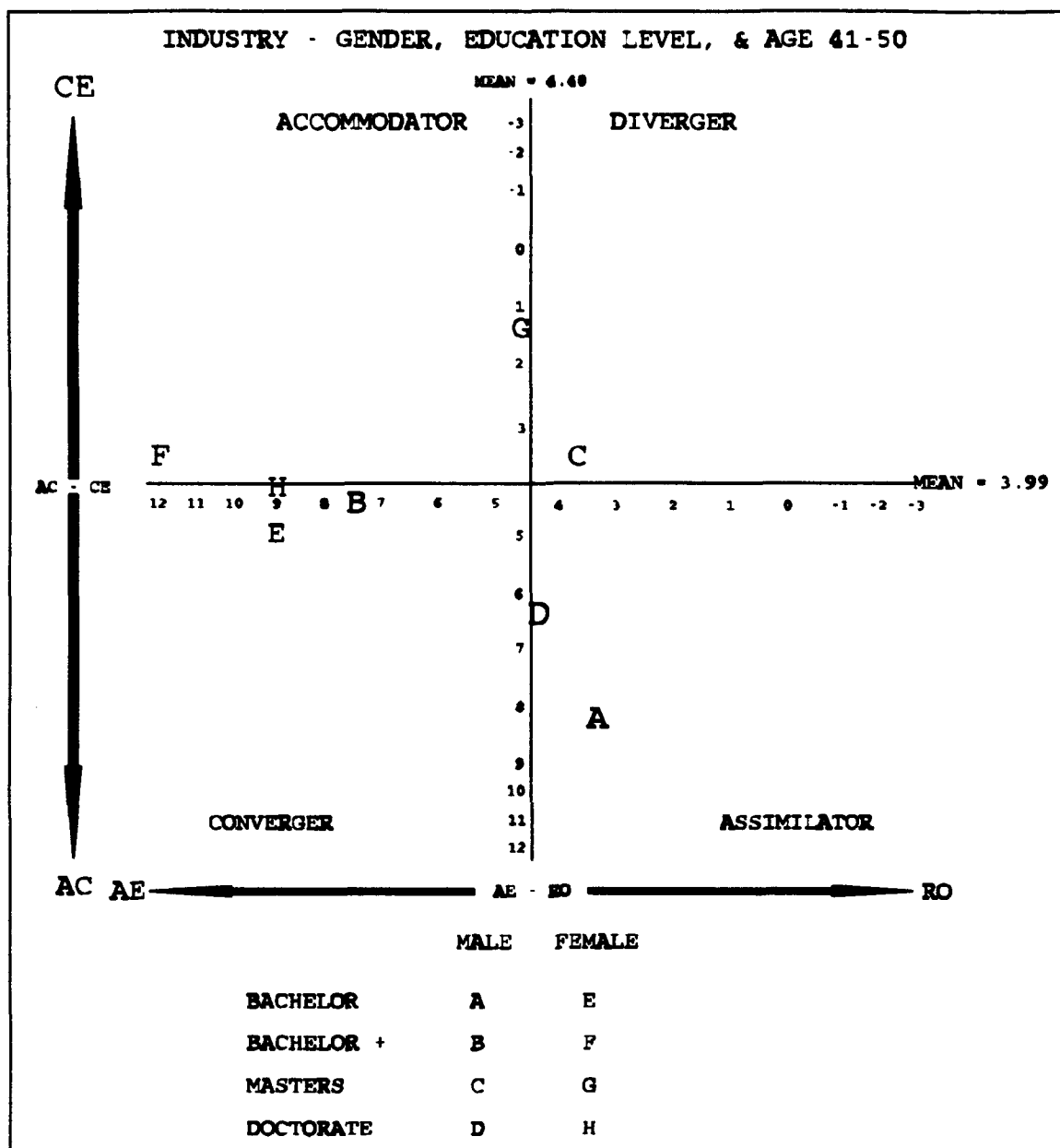
Master's Degrees prefer reflection, as does the male negotiator with a Doctorate. All three fall into the Assimilator quadrant. These learners like to deal with precise and logically sound theory.

An examination of the male Industry negotiator reveals an increasing preference for abstract conceptualization skills as the level of education increases. The male shows an increase in preference towards active experimentation at the Bachelor's plus level of education. This preference drastically reverses at the Master's Degree level. Here the preference is for reflective observation. Male negotiators with Doctorates have an even stronger preference for this learning trait.

The female negotiator prefers active experimentation for all but the Master's Degree level of education. There is almost no movement on the AE-RC learning dimension by the other three groups. Three of the groups have very similar scores on the AC-CE learning dimension also. Only the Bachelor's Degree plus group exhibits any significant movement.

**b. Age 41-50**

There were 61 Industry negotiators that fell within the age group 41-50. There were 48 males and 13 females. An illustration of the groups' LSI learning dimension scores is provided in Figure 24.



**Figure 24.** INDUSTRY LSI GRID - GENDER, EDUCATION, AGE 41-50

Examination of the locations of the different groups' LSI scores reveals in all levels of education, a stronger preference by the female Industry negotiator for active conceptualization than the male. There is a large difference for all but the Master's Degree level of education. These

scores place the female Industry negotiator in either the Accommodator or Converger quadrant.

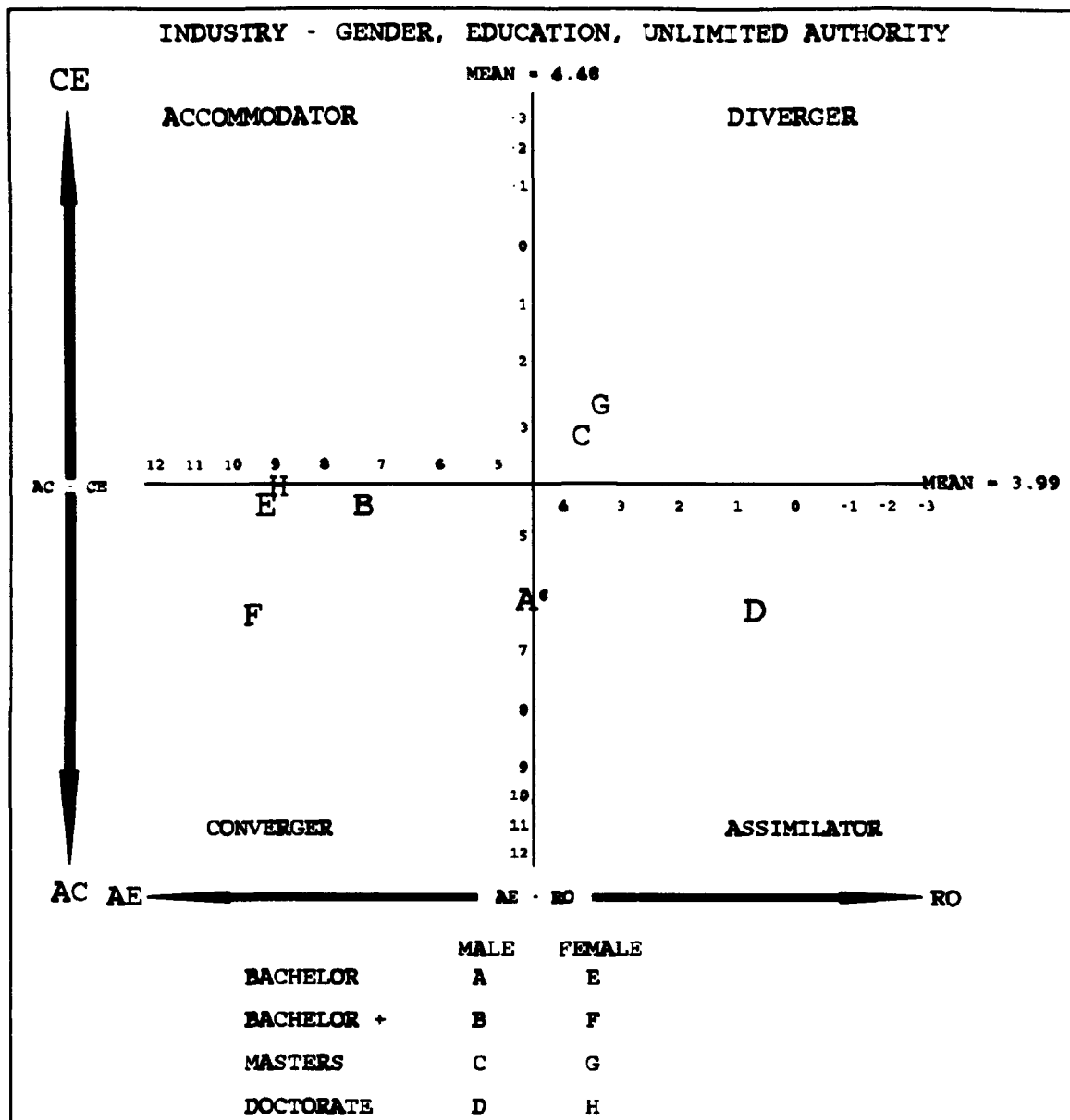
The male has a stronger preference for abstract conceptualization at all levels of education than does the female. They also exhibit a preference for reflective observation for all but the Bachelor's Degree plus level of education.

### **3. Gender, Education, and Negotiation Authority**

This subsection probes the predominant learning styles of Industry negotiators by gender, education, and dollar value of negotiation authority. There are 114 (74.5%) of the 153 Industry negotiators that have unlimited negotiation authority. Of these, 89 (78%) were male and 25 (22%) were female.

Only Industry negotiators with unlimited authority that possess a Bachelor's through Doctorate Degree, will be appraised. There were not enough LSI survey responses in the other categories to enable adequate analysis. The LSI scores for Industry negotiators with unlimited negotiation authority are illustrated on the LSI Grid in Figure 25.

The male negotiator with unlimited authority has a stronger preference than the female for abstract conceptualization. This applies for all but the Bachelor's Degree plus level of education. Additionally the male has a stronger bias towards reflective observation learning traits



**Figure 25.** INDUSTRY LSI GRID - GENDER, EDUCATION, & NEGOTIATION AUTHORITY

for all but the Master's Degree. The male favors active reflection until the attainment of a Master's Degree. At this level the bias becomes reflective observation on the AE-CE learning dimension.

The female negotiator with unlimited authority is a Converger for all but the Master's Degree level of education. Their AC-RO learning dimension score is very similar for the Bachelor's, Bachelor's plus, and Doctorate level of education. Females with a Bachelor's plus, show a stronger preference for abstract skills than do females with High School or Doctorate Degrees. At the Master's Degree level, the learning preference is that of the Diverger. The most noticeable change is the significant movement to the reflective observation learning trait.

#### **I. SUMMARY**

This chapter examined the predominant learning styles of 153 Industry negotiators using the Kolb Learning Style Inventory. The respondents LSI scores were plotted on the Kolb LSI Grid to facilitate the examination. Industry negotiators scores were evaluated by age, gender, education, contracting experience, negotiation experience, and negotiation authority. Finally, a closer examination of the Industry negotiator was undertaken by combining several of the different demographic factors.

All categories evaluated portray the novice negotiator (youngest, least educated, least experienced, least amount of authority) as Divergers. This observation was consistent throughout the evaluation of the Industry negotiator.

Divergers learn from specific examples and by watching and listening.

Male negotiators have a strong bias for abstract (thinking) learning skills. As their education level, age, experience, and authority increases they tend to obtain a bias for reflection in their learning style, migrating from the Converger to Assimilator learning quadrant.

The female industry negotiator possesses a very strong preference for active experimentation. They like to get things done and take risks. They fluctuate primarily between the Accommodator and Converger learning style with a slight bias for abstract conceptualization learning traits on the AC-CE learning dimension.

All categories evaluated had the Industry negotiator favoring abstract learning skills as the level of experience, authority, or education increased. Only in the age category does this observation differ. Negotiators showed an increased preference for abstract skills up through the age of fifty. Above this age they showed a tendency to digress back towards the concrete experience learning trait.

Chapter VI will examine and compare predominant learning styles of both Government and Industry negotiators. To better examine trends and differences and to avoid skew data by insignificant group responses, the demographic groups have been consolidated.

## **VI. GOVERNMENT VERSUS INDUSTRY LEARNING STYLES**

### **A. INTRODUCTION**

This Chapter first provides an analysis of Government negotiator learning styles that were examined in Chapter IV. Next, the Industry negotiator learning styles from Chapter V are analyzed. Finally, this Chapter provides a comparison and analysis of the learning styles of Government versus Industry negotiators.

### **B. ANALYSIS OF GOVERNMENT NEGOTIATOR LEARNING STYLES**

This section will comment on specific observations and noticeable trends from Chapter IV and analyze reasons that precipitate the differences in learning styles among the various categories of Government negotiators or from the norms discovered by Kolb in his initial research.

#### **1. Age**

The Government negotiator shows a slight movement away from a preference for abstract skills, towards concrete experience traits as he/she ages. This observation holds until the negotiator reaches the grouping of age 61 and over. This trend is opposite the observation concerning the aging process made by Kolb in his basic research.

Kolb's research using the LSI shows a slight tendency toward increasing abstractness as one grows older. The

relationship between Active-Reflective dimension and age is curvilinear (Kolb, 1976:24) (McCart, 1985).

However, in all but age group 51-60, the group retains the preference for thinking. This trend is probably due to the fact that negotiators must be open minded and adaptable to change. Negotiation requires communicating with others. As negotiators age, they gain more seasoning from numerous contract negotiation experiences, causing the skill level in relating to others to increase. These are characteristics of the concrete experience learning trait.

The Government negotiator also moves towards the reflective observation trait as aging occurs. This is similar to an observation noticed by Kolb in his original research. As they age, experience in negotiation increases, and the Government negotiator learns to become more patient, objective, and careful. Looking for and identifying hidden agendas, negotiation strategy, and the right contract method to control and reduce risk becomes paramount.

## **2. Gender**

Male Government negotiators were determined to be Convergents and females were found to be Divergers. The observation that women tend to score higher on the Concrete Experience orientation while men are predisposed towards Abstract Conceptualization was observed by Kolb in his original research (Kolb, 1976:24). The outcome of this research also found this observation to be true.



The orientation towards concrete experience focuses on being involved in experiences and dealing with immediate human situations in a personal way. It emphasizes feelings and relating to others. (Kolb, Rubin, McIntyre, 1984:34). Females in this society are more likely to be raised with a concern for the feelings of others. This type of trait is more predisposed, and has been characteristic of what the female role in society was thought to be. Divergers are interested in people and tend to be imaginative and feeling oriented. (Kolb, Rubin, McIntyre, 1984:35).

Males in our society tend not to be concerned with feelings for others. As Convergers they are in control of their emotions. Males are taught from an early age not to advertise feelings in their dealings with people.

Convergers prefer dealing with technical tasks and problems rather than with social and interpersonal issues (Kolb, Rubin, McIntyre, 1984:35).

These differences are the primary reason that the male and female Government negotiators are polar opposites in the Kolb Learning Style Inventory.

### **3. Position Type**

The Learning Style Inventory scores determined that Procuring Contracting Officers (PCOs) were Assimilators, Administrative Contracting Officers (ACOs) were Accommodators, and that Terminations Contracting Officers (TCOs) were Convergers.

As an Assimilator, the PCO shows a preference for inductive reasoning. It is important for theory to be logically sound and precise. This style is characteristic of basic sciences and mathematics rather than applied science. There are several reasons that PCOs might fall within this learning style.

PCOs must have a broad education. They must have a solid business background. They need to have a knowledge of accounting, economics, law, mathematics, quantitative analysis, and management to be successful. Common sense, good judgment, planning skills, and above adequate communication skills are required.

FAR Part 1.603 specifies that experience, training, education, business acumen, judgment, character and reputation are to be considered when selecting candidates for appointment as contracting officers. (Sherman, 1991:362)

All these educational prerequisites are used by the Government PCO in a highly regulated contracting environment. The acquisition system is afflicted with hundreds of process-oriented statutory requirements of which the effective PCO must be aware. These statutory guidelines place a tremendous burden on the PCO in the negotiation process. Assimilators place emphasis on understanding a multitude of data, planning, logically organizing it, and ensuring that proposals are logically sound. A negotiation that strictly conforms to all the required government statutes is more important than a negotiation revolving around the liberal interpretation of

applicable statutes, the use of innovative approaches and ideas, and taking risk.

The ACO falls within the Accommodator learning quadrant. The ACO functions as the intermediary between the Government PCO and private industry in managing the performance of the contract. The Accommodators greatest strength lies in getting things done, carrying out plans and tasks, and getting involved in new experiences. They like to deal with people, get involved and do things. This type of learner fits the image of the ACO.

The ACO is involved with contractor personnel from the moment a contract is awarded. They get involved monitoring performance, cost, resolving disputes, negotiating forward pricing rate agreements, monitoring progress payments, and several other similar functions. There are 67 specific functions relating to the ACOs management of contracts set forth in FAR Part 42.302.

Individuals with accommodative learning styles are at ease with people but are sometimes seen as impatient and "pushy." This person's educational background is often in technical or practical fields such as a business. In organizations, people with this learning style are found in "action-oriented" jobs, often in marketing or sales. (Kolb, Rubin, McIntyre, 1984:37)

Many ACOs in Government service have technical educations. Contractors will generally state that ACOs are pushy and impatient. Each new contract is a new experience which requires a proactive ACO.

The TCO is a very strong Converger. The function of terminating Government contracts can be a very complicated and involved task. Negotiations in this venue are probably the most complicated of all Government negotiations. The TCO must negotiate settlement agreements with the contractor in accordance with the provisions of FAR Part 49.105. The TCO handles contracts terminated for both convenience and default. The functions of the TCO seem to fit well within the definition of the Converger Learning style.

The Converger prefers to deal with complicated and difficult assignments. Problem solving, decision making, and the practical application of ideas are the greatest strengths of this approach. They control their emotions and deal with predicaments through hypothetical-deductive reasoning (Kolb, Rubin, McIntyre, 1984:35). These traits accurately describe the attributes needed by a TCO. Contract terminations are usually complicated endeavors that require a skillful negotiator who can both envision and execute an equitable decision.

#### **4. Education**

There is a significant trend that can be identified by examining learning styles of Government negotiators by age. As the education level increases, the predominant learning style changes from favoring the concrete and reflective abilities to favoring the active and abstract learning abilities.

There is a very strong linear relationship between the amount of education and abstractness of learning orientation. The Active-Reflective dimension shows increasing tendencies towards activity through the Master's Degree. (Kolb, 1976:25)

As the education level increases from the High School level through the Doctorate level, emphasis becomes more pronounced on developing enhanced intellectual and analytical capacity. Additionally as the level of education increases, the emphasis on conceptualizing many approaches to problems, and defining the implications of different solutions becomes more refined.

Most personnel involved in negotiation related positions have business related education backgrounds. In Kolb's original research he found that as business related education increased, so did the orientation toward activity. The analysis of Government negotiators also confirmed this observation.

Government negotiators with a High School education are Divergers. They learn by watching and sensing. This learning style would tend to equate to learning associated with on the job training programs. Many of the negotiators with this educational background entered the Federal workforce through clerical positions, and moved up through the workforce by obtaining work experience.

Little rigorous screening of applicants at the entry level and no measurable priority for advanced educational achievement has been allowed for contracting positions. Nor has there been any formal rank, grade, experience, or educational requirement for appointment as a contracting

officer, a position not associated definitively with any specific job classification. Employees have been drawn from a variety of skills - clerical, technical, or administrative. (Sherman, 1991:363)

When the education levels of Government employees are consolidated by combining High School and Associate Degree negotiators into one category, and Bachelor Degree and Bachelor Degree plus additional education into one category, the observation regarding the change towards activity and abstract learning traits, holds true.

##### **5. Contracting Experience**

There are no real patterns discernable by examining learning styles by contracting experience. The data do provide an indication that the Government negotiation workforce is very mature and experienced. Only 40 (8.5%) of the Government negotiators that responded to this survey had less than five years contracting experience. This is probably the result of current ongoing reduction in force that is taking place within the Department of Defense acquisition workforce. Tenure is usually the deciding factor during times of reduction in the workforce.

When experience groups are consolidated (0-2 combined with 3-5 years experience) a slight trend towards abstract conceptualization can be perceived. This observation is opposite the trend discussed in Subsection 1 concerning aging and conforms with Kolb's observation. As experience is gained, the Government negotiator becomes more abstract. This is

probably due to the fact most negotiators try to enhance their ability by pursuing additional education as their careers progress. Advancement within the Civil Service ranks is based upon credentials and demonstrated ability. Education as previously discussed in Subsection 4 increases the ability to think. All Government negotiators receive education and training even if they are not pursuing it on their own time. Organizational and institutional training and on the job training increases the ability to identify, understand, and solve problems.

Negotiators over 21 plus years of experience do not follow this trend. They make a major trend reversal by becoming very strongly biased for concrete experience. This could be because many of these individuals entered the profession long before the present day emphasis on education became critical, or because they prefer to rely more on feelings than on a systematic approach to problems and situations.

#### **6. Negotiation Experience**

The survey responses indicated that the Government negotiators are very experienced in contract negotiations. Only 59 (12.4%) of the respondents had less than four years experience. This is similar to the data collected regarding contracting experience discussed in the previous subsection.

The low numbers of entry level negotiators are probably caused by the Government wide freeze on hiring that has been

in effect for the last few years during the downsizing evolution. Additionally, during reduction in force evolutions, it is usually the most senior or junior personnel that are rified.

The most noticeable trend when reviewing the data by negotiation experience is the movement from reflection towards activity. When negotiators with less than one year experience are combined with those possessing two through four years, the trend clearly shows an increasing preference for activity as experience is gained.

Government contract negotiators are usually appointed by the head of their procuring activity. This is done by issuing a warrant or certificate of appointment which specifies the limitations of the position, the breadth of authority, and the levels of review and oversight.

The extent of the negotiator's authority increases with experience, seniority, and by success. Being successful in Government contract negotiations does not signify that the negotiator is being novel in approach by being innovative and taking risk. Most likely it means that the negotiator is cautious, watchful, patient, and adverse to taking risks.

The trend of the LSI indicates that the junior negotiator has a very strong bias towards the reflective observation learning trait. As experienced is gained they move toward active experimentation. As experience is gained the negotiator gains tenure, promotion, more authority and responsibility.



This provides a stronger feeling of security and allows the negotiator to take more risks. They can then influence people, and change situations with less oversight.

People with active experimentation orientation enjoy and are good at getting things accomplished. They are willing to take some risk to achieve their objectives. They also value having an impact and influence on the environment around them and like to see results. (Kolb, Rubin, McIntyre, 1991:35)

## **7. Negotiation Authority**

The Government negotiator progresses from the Diverger quadrant to the Converger quadrant as the dollar value of negotiation authority increases. Over 63% of the survey respondents had warrants allowing them to negotiate contracts in excess of \$10 million.

It is this researcher's belief that the trends towards activity and abstract learning traits are due to a combination of several of the other factors already discussed. An increase in education results in movement towards abstract learning skills as did an increase in contracting experience. Negotiation experience clearly migrated to a preference for activity. The combination of these factors results in the shift of learning styles as negotiation authority shifts.

The discussion of subsection 6 concerning negotiation experience is most applicable to this category. The negotiator with a high level of authority earned the warrant for the position by being successful and by gaining the trust and respect of superiors. As authority increases, so does the

amount of independent thinking, decision making, and willingness to deal with complicated tasks. The inherent desire to avoid risk also decreases.

#### **8. Miscellaneous Comments**

This section of Chapter IV provided a detailed look at Government negotiators evaluated by using combinations of the demographic data. Most of the trends identified in the prior subsections remained consistent throughout the different methods of examination.

When evaluated as a whole group, PCOs were assessed as Assimilators and ACOs were assessed as Accommodators. Male negotiators were assessed as Convergers and female negotiators were determined to be Divergers.

When the PCO learning style is evaluated by gender, the male PCOs are identified as Convergers and female PCOs as Divergers. These learning styles are consistent with the observation concerning gender in subsection 2.

When the ACO is evaluated by gender, the male ACOs are Divergers and the female ACOs are Accommodators. The male has stronger preferences for abstract learning skills than does the female. Females are noted for preferring concrete experience. Both these statements are consistent with the observation discussed in subsection 2. However, neither the male or female ACO fits into the pattern concerning gender. The difference is on the Active Experimentation/Reflective

Observation Learning Dimension. This researcher has no opinion as to why this difference occurs.

In all groups, the observation in subsection 4 concerning education was consistent. As education increases so does the bias for the abstract conceptualization learning trait. Table XI in Chapter IV provided a breakdown of male and female PCO/ACO by education. There is a very noticeable education disparity between males and females. Females make up a higher percentage of the Government negotiators without higher education. This distinction is most likely the results of female Government clerical and administrative support personnel entering the workforce. A college degree was not required prior to the Defense Acquisition Workforce Improvement Act. This is a major reason that females show a stronger preference for concrete experience learning traits in many of the categories.

## **9. Summary**

As evaluation criteria use more demographic categories to observe learning styles, the Government negotiator's style becomes more diverse. Previously discussed observations regarding age, position, gender, education, experience levels and authority remain applicable in most groupings. However, some of the small sample sizes can make some of the observations suspect, with regard to reliability.

The next section will provide an analysis of Industry negotiator learning style data contained in Chapter V.

### **C. ANALYSIS OF INDUSTRY NEGOTIATOR LEARNING STYLES**

This section comments on specific observations and noticeable trends from Chapter V and analyzes reasons that cause the differences in learning styles from the norms discovered by Kolb in his original investigation.

#### **1. Age**

Industry negotiators show an increasing orientation towards abstract and active learning traits until they reach age fifty. This trend mimics the observations of Kolb's basic research. After they attain the age of fifty they show a total reversal of learning preference. They display a preference for concrete and reflective skills. The tendency of the movement toward reflective observation as age increases, was ascertained by Kolb. However, the movement towards a concrete learning preference is not consistent with Kolb's original research findings of becoming more abstract (Kolb, 1976:24).

This tendency is probably due to the fact that the successful private industry negotiator must obtain contract awards which results in business for the firm. A young industry negotiator's success depends on being innovative, taking risks, and negotiating successful contracts for the firm. Their position and job security depends on how successful they are. As they age and gain job security they

can become more oriented towards people and act on past experiences. They fall within the Converger learning style until they reach age fifty.

As the industry negotiator ages and passes the age of fifty, they possibly become less secure. The concern about job security can result in the negotiator becoming more risk adverse. Patience, objectivity, and careful judgment become prevalent learning (RO) traits. A drastic error or unsuccessful negotiation which results in the loss of potential work, bad terms and conditions, or too much risk, could cause the individual to be fired, released, or laid off. Success breeds security, however, failure is easier to recover from at a younger age in private industry. A younger person is more likely to take chances which can result in high payoffs. They can recover easier than the senior middle manager if they are laid off.

## **2. Gender**

Female industry negotiators were determined to be Accommodators and males were determined to be Assimilators. The traits for each group on the AC-CE learning dimension were consistent with Kolb's original research. Females have a bias for concrete experience and males a bias for abstract conceptualization (Kolb, 1976:24). The discussion of the trait in Subsection B.2. of this Chapter is applicable.

The difference on the AE-RO learning dimension was not found to be consistent enough by Kolb, in his original research, to determine a predominant learning trait preference for the male or female. Within this study males were determined to favor reflective observation and females active experimentation. This puts the male and female at positions on the LSI Grid that are considered polar opposites.

The difference in Learning Style could be because the group of females are such a small percent of the group of Industry negotiators, that they have to be more proactive and daring in their approaches to negotiation to be successful. A trait of Active Experimentation is taking risk.

Another reason could be in the make up of the Industry negotiation workforce. Many of the male industry negotiators have technical backgrounds. The Assimilator was identified by Kolb as being characteristic of personnel with educational backgrounds in the basic sciences and mathematics rather than applied sciences (Kolb, 1976:6).

Finally, until recently in our society, females have been subjugated and held back from assuming critical positions of authority. This has fashioned many females into finding methods that satisfy present conditions and accomplish the mission at hand with the minimum of fuss. Accommodators are adaptive to changing circumstances. When things are wrong they rely on others for information rather than their own ability, and will often abandon their conceptions. The Assimilator

would be more likely to reexamine the issue or facts rather than disposing of their hypothesis.

### **3. Education**

Industry negotiators show substantial variance on the Learning Style Inventory grid in the education category. The learning preference pattern starts in the same manner as identified by Kolb, with an increased bias for abstract learning abilities as the education level rises. This preference slightly digresses back towards concrete traits at the Master's Degree level, but returns to the Kolb trend favoring abstract at the Doctorate level.

The Industry negotiator with less than a Master's Degree shows an increasing trend for activity. Once a Master's Degree is achieved the trend switches to favoring reflection. This is inconsistent with an observation made in Kolb's original research. Kolb identified the reversal on the AE-RO dimension as occurring when individuals obtained more than a Master's Degree. However this observation was made by examining only subjects with business related educations, which Kolb considered an active background (Kolb, 1976:25). Further research would probably find that many of the personnel involved in representing Industry in negotiation have non-business related academic backgrounds.

Kolb determined that individuals with backgrounds in mathematics, chemistry, economics would prefer more reflection

and less activity in their learning style. Higher education emphasizes perception, reflection, and analysis. Over 69% of survey respondents possessed a Master's Degree or Doctorate. Industry hires more highly educated people and expects smarter decisions from them. This is why the shift occurs at the Master's Degree level.

#### **4. Contracting & Negotiation Experience**

The Industry negotiator has an increased preference for abstract learning traits as they gain experience. This occurs because gaining experience is similar to obtaining an education. The education trends examined earlier in this research and Kolb, both identified an increased preference for abstract skills as education level increases.

The industry negotiator also has an increasing preference for activity until they obtain over eleven years of contracting experience and over twelve years of negotiation experience. At this point they become oriented towards reflective learning traits. This researcher believes that this trait is due to the fact that many Industry negotiators obtain Senior Management positions at this time. Many industry negotiators who responded to the survey indicated the title of their position. Those who indicated that they had over eleven years of contracting experience had position titles such as: Senior Contract Administration Manager, Contracts Manager, Senior Negotiator, Corporate Director -Government Finance



Relations, Director Contract Administration & Compliance, Lead Contract Manager, Manager Contracts & Proposals, Vice President Contracts, President for Contracts Administration, etc.

As alluded to in earlier discussions of the Industry negotiator, they must be able to think and make decisions by considering alternate solutions and evaluating the various consequences of the solutions. Improper decisions could result in the loss of employment. Industry puts a premium on decision making and judgment skills.

Personnel with lower levels of experience are not the ultimate decision makers in industry. However, as they gain both contracting and negotiation experience they move more towards the active and abstract learning traits. They learn how to set goals, experiment with new ideas, and how to formulate new ways to analyze and make decisions.

#### **5. Negotiation Authority**

To properly address trends within this grouping, the researcher consolidated the group into three categories. An illustration of the groupings can be seen in Section D.6. of this Chapter.

The consolidation of the categories facilitates the presentation of a pronounced movement from the Diverger to Converger learning quadrant. As authority increases, there is a distinct change in preference for both abstract and active

learning traits. Over 85% of the Industry negotiators show these learning traits in the Converger quadrant.

This matches the trend found in education discussed in Subsection 3. As education increases so does the preference for abstract learning abilities. As contracting and negotiation experience increase, so do abstract learning skills.

Convergers are decision makers. They like to define and solve complicated tasks and problems. Government contracts are complicated, and the negotiations can be even more complex. The successful private business negotiator must be capable of dealing with difficult Government requirements. They must be able to interpret complicated specifications and drawings, understand perplexing terms and conditions, and be well versed in a enigmatic world of accounting procedures and statutes, to successfully compete for award.

## **6. Miscellaneous Comments & Summary**

This section of Chapter V provided a detailed look at Industry negotiators by using combinations of demographic data. Most trends identified in the prior subsections were still apparent when different combinations of data were used to examine learning styles of Industry negotiators in more detail. However, because some of the sample sizes were small, some of the learning styles for particular groupings of data can be considerably unreliable.

Industry negotiators' learning styles are similar to Government in many demographic categories, but are different in others. Section D will provide a comparison of Government and Industry learning styles and discuss similarities and differences.

#### **D. ANALYSIS OF GOVERNMENT VERSUS INDUSTRY LEARNING STYLES**

Chapters IV and V provided an examination of Government and Industry learning styles. Each of these groups was examined as a separate entity. Government learning styles were determined by examining 473 responses to the Learning Style Inventory (LSI) survey and Industry by examining 153 responses to the LSI survey. This section uses a weighted average mean after combining both Government and Industry LSI survey responses (626 totals) to compare the two groups. Individual group LSI respondent scores remain the same as presented in Chapters IV and V. It should be expected that some of the groups will shift slightly on the new LSI Grid since there is a new mean. The mean for the AC-CE learning dimension is 3.7 and the mean for the AE-RO learning dimension is 4.2.

The data are presented by age, gender, education, contracting experience, negotiation experience, and dollar value of negotiation experience. The data will then be examined by combining several of the demographic categories for presentation purposes only.

To further aid in making the analysis more meaningful and to better assist in identifying trends, several of the demographic categories were consolidated. These consolidations will be discussed within the particular subsection of this section.

### 1. Age

To better define trends within this category, age

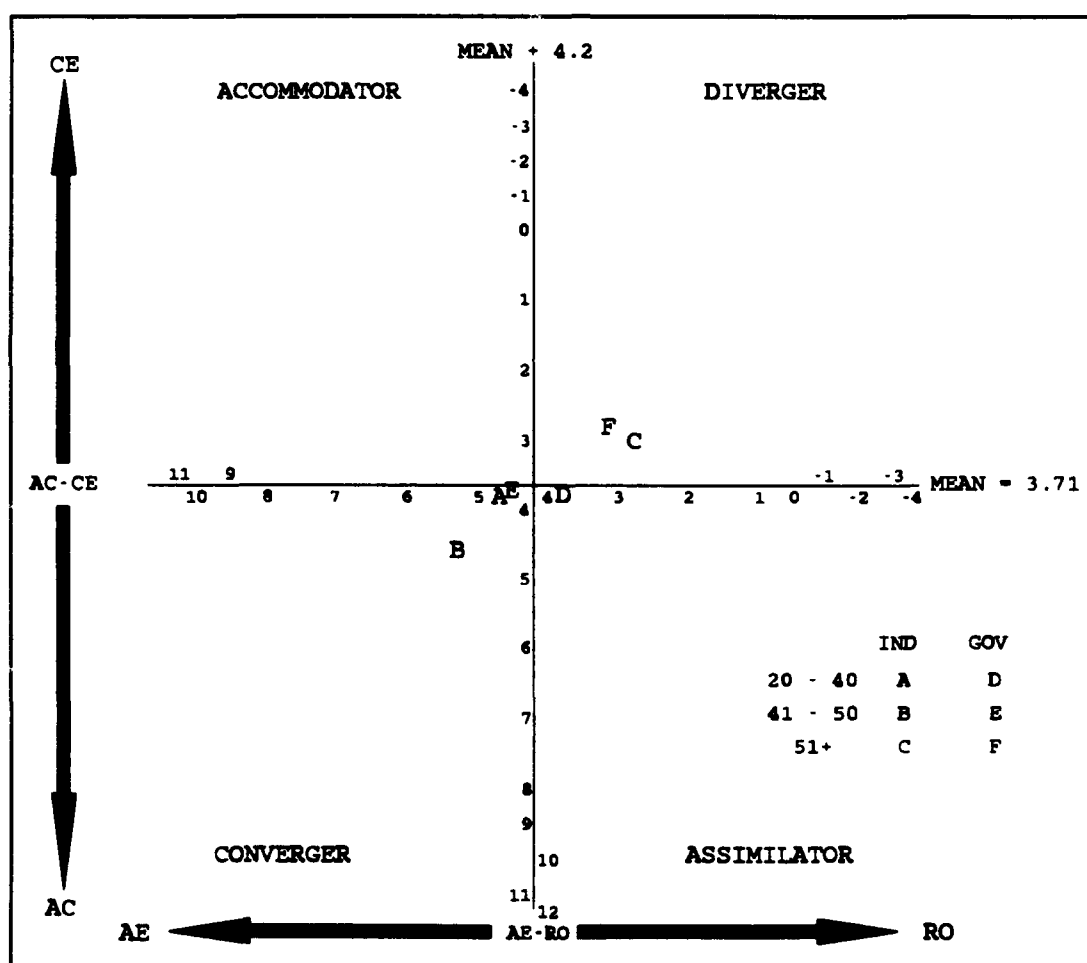


Figure 26. GOVERNMENT & INDUSTRY LSI SCORES - AGE

groups where consolidated. Because there were so few responses

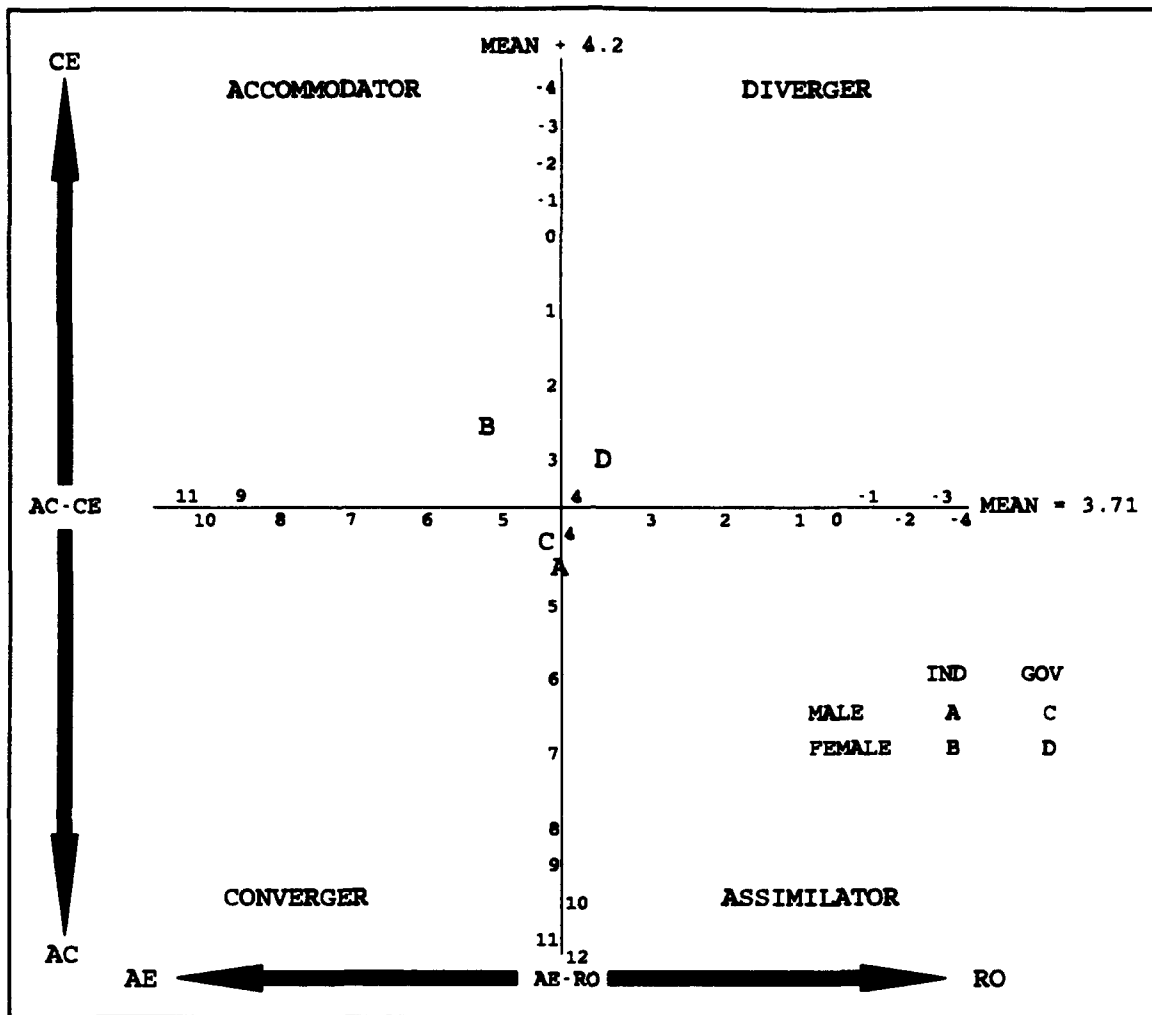
for individuals aged 20-30 (29 Government and 9 Industry) or 61 and older (4 Government and 2 Industry), these two groups were combined with others. This section now reviews how age affects learning styles by examining three categories. They are 20-40, 40-50 and 51 and older. Figure 26 illustrates both Government and Industry mean learning style inventory score locations on the LSI Grid.

Both Government and Industry negotiators have the same learning biases. They both move toward concrete and active traits as they age, until they reach age fifty. At this point they shift and favor reflection and concrete skills. As discussed in sections B and C of this chapter, this differs from Kolb's observations.

In all three groups the Industry negotiator has a stronger emphasis on abstract learning traits. This is probably due to the fact that education achievement levels for Industry negotiators are significantly higher than those of Government negotiators within all age categories.

Learning styles are similar except for age group 20-40. Industry negotiators are Convergers and Government negotiators are Assimilators. The difference is on the Active/Reflective (AE-RO) learning dimension. Younger Government negotiators are probably less inclined to take risks. They are probably more prone to try to determine the logically sound and precise solution vice sensibly determining what really works.

## 2. Gender



**Figure 27.** GOVERNMENT & INDUSTRY LSI SCORES - GENDER

The learning styles of male and female Government and Industry negotiators are similar to those commented on for gender in section B and C with exception of the male industry negotiator. The LSI scores for male and female Government and Industry negotiators are illustrated in Figure 27.

The male Industry negotiator shifts from the assimilator quadrant to the converger quadrant when plotted on the combined group LSI mean.

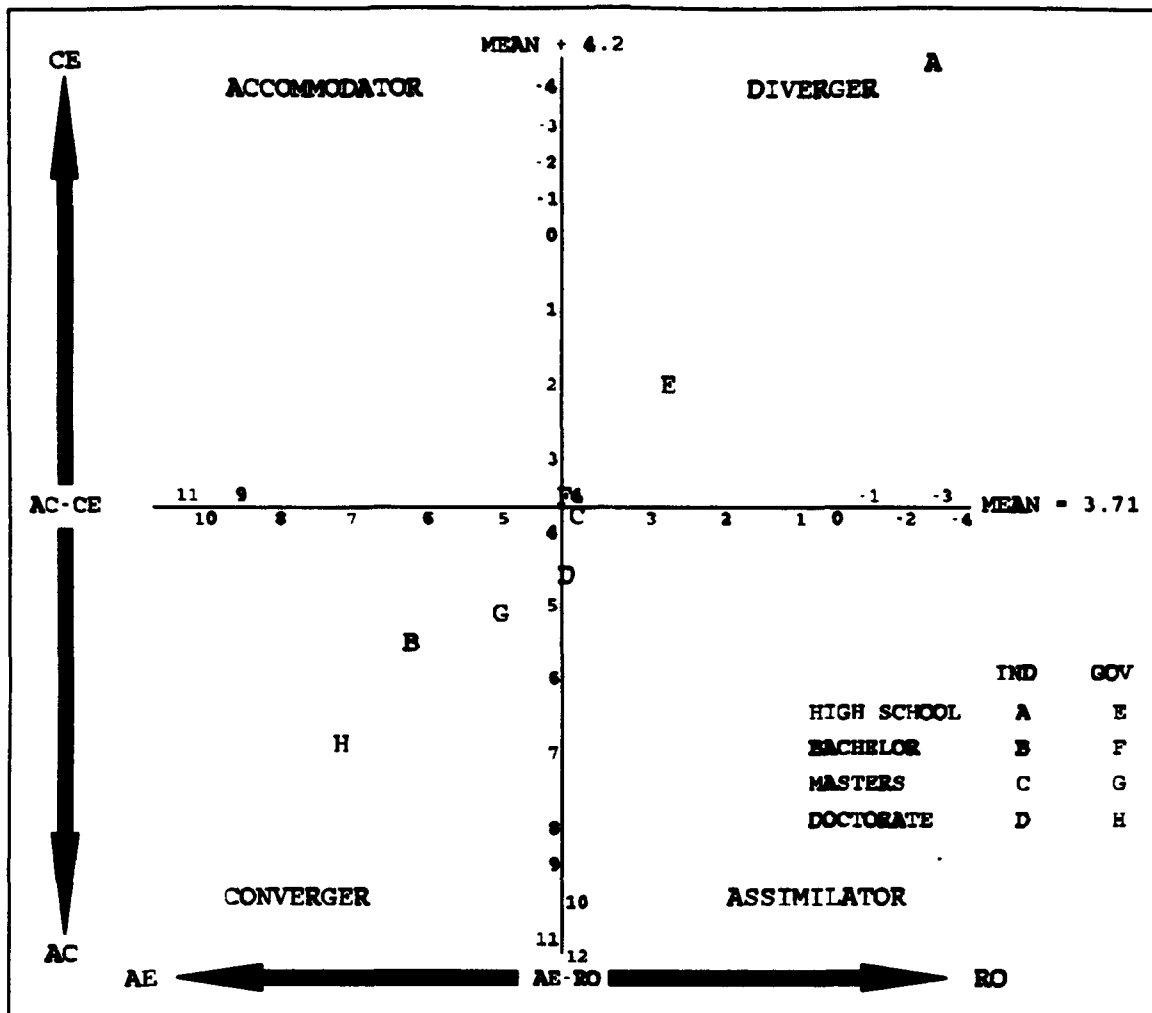
Both Government and Industry males are Convergers. Female Government negotiators are Divergers and female Industry negotiators are Accommodators. Kolb's research data hinted that more female respondents tend to have a more divergent learning style than male respondents (Choi, Washington, 1988:21). The most noticeable cause for the difference between the female negotiators is on the AE-RO learning dimension.

The female Government negotiators have traits that show patience, objectivity, and careful judgment. However, Divergers are not known for being action oriented or for making decisions. Accommodators on the other hand, are results oriented. They make things happen and take risks in making decisions. Success in Government employment means maintaining the status quo by not being creative, risky, or making mistakes. Success in Industry means taking appropriate risk to achieve business for the firm.

Finally, in Industry the female is more likely to be attempting to seek and exploit opportunities to advance. There are still more challenges for women in private Industry to achieve total equality in the labor force. Within Government, equality is more commonplace throughout all echelons of the workforce, so it is easier to advance.

### **3. Education**

This subsection reviews Government and Industry negotiators by consolidating the six educational groups



**Figure 28.** GOVERNMENT & INDUSTRY LSI SCORES - EDUCATION

reviewed in Chapters IV and V into four categories. Negotiators with Associate Degrees were combine with negotiators possessing High School educations. Additionally, negotiators with Bachelor's Degrees plus additional education were combined with negotiators possessing Bachelor's Degrees. This allowed better identification of learning style trends and reduced skewing from small response groups. The LSI scores for the survey respondents are illustrated in Figure 28.



The most noticeable difference between the Government and Industry negotiators is at the Master's and Doctorate Degree levels. Both groups favor abstract learning skills. This is consistent with Kolb's observation discussed in section B.4. The biggest difference between the groups is the amount of emphasis on the abstract learning dimension. Government negotiators place much more emphasis on the trait. The large amount of work requirements and the experience gained from large workloads probably necessitates more thinking skills by Government negotiators.

The Government negotiator falls within the Converger quadrant while the Industry negotiator falls within the Assimilator quadrant. The other factor influencing these learning styles is that the workload of the Government negotiator also necessitates action. Government negotiators do not have time to be reflective concerning any one procurement. They have a multitude of actions on their desk at any one time. Industry negotiators are highly unlikely to have a multitude of concurrent negotiation actions on their desk at any one time. They have more time to be patient, objective, and careful.

Both Government and Industry negotiators with less than a Bachelor's Degree are Divergers. This is consistent with the observations made in sections B and C. Divergers favor exercises, simulations, feedback, lectures, and are characterized as liberal arts students in Kolb's original

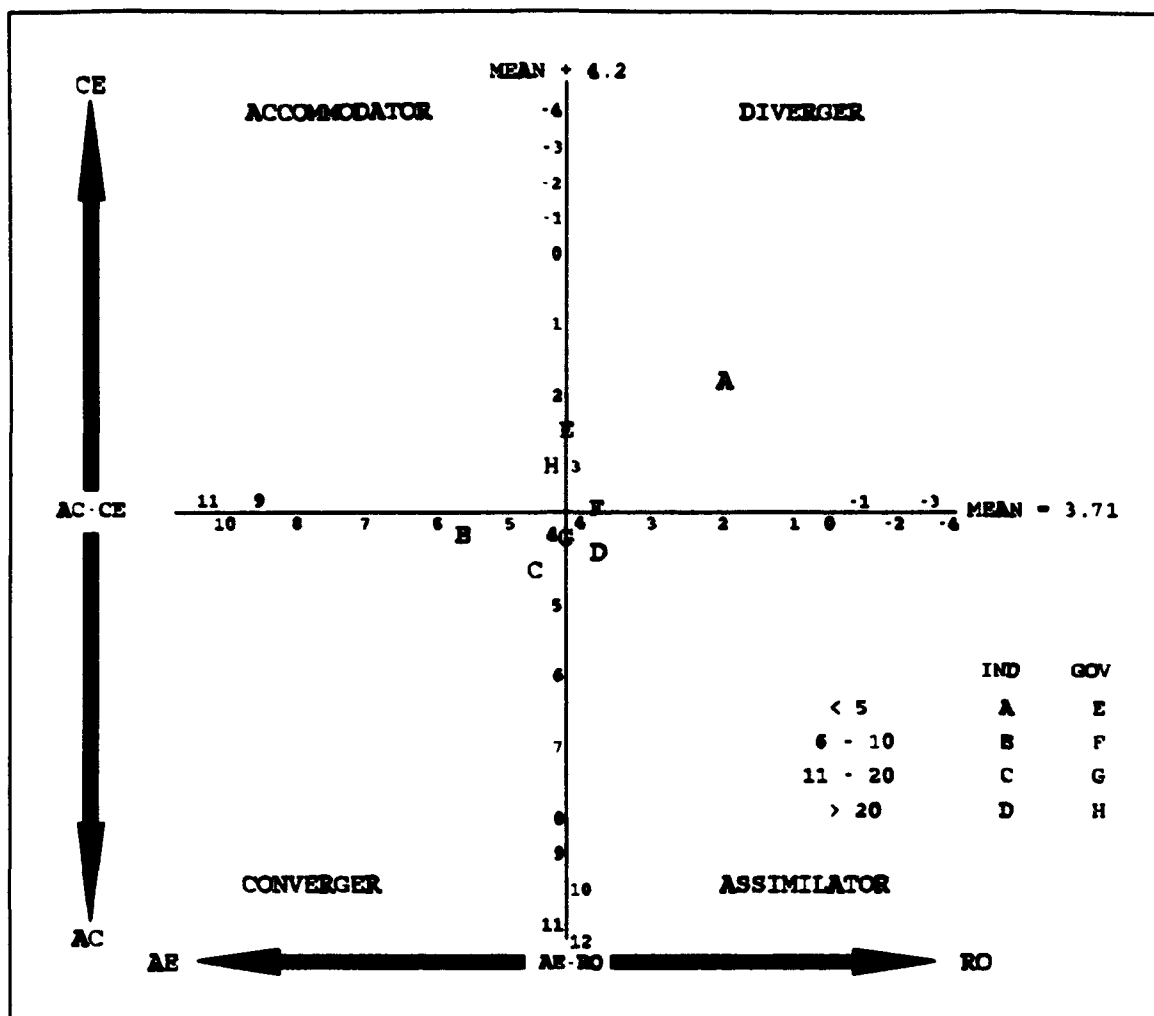
research (Kolb, 1976:32,33). The education taught at most High Schools emulates liberal arts. On the job training obtained by listening, sensing, feeling, and watching characterize the Diverger learning style.

#### **4. Contracting Experience**

This subsection consolidates the five experience groups used in Chapters IV and V, into four groups, to better identify trends and learning style preferences. The new groups are five years or less, six through 10, 11 through 20, and over 21 years of contracting experience. Figure 29 illustrates the location of the survey respondents LSI scores.

Both Government and Industry negotiators become more abstract until they reach greater than 20 years of experience. At this point both groups show a shift away from abstract towards concrete learning skills. Industry negotiators are more biased toward abstract skills at all levels once they exceed five years contracting experience. These traits were discussed in subsection C.4.

Government workers have a great reliance on concrete experience for all levels of experience except at the 11 through 20 level. They only have a slight difference on the AE-RO learning dimension. They have no real predominant preference for either the active or reflective learning trait. They show their greatest difference on the AC-CE learning dimension. This was discussed in section B.5.

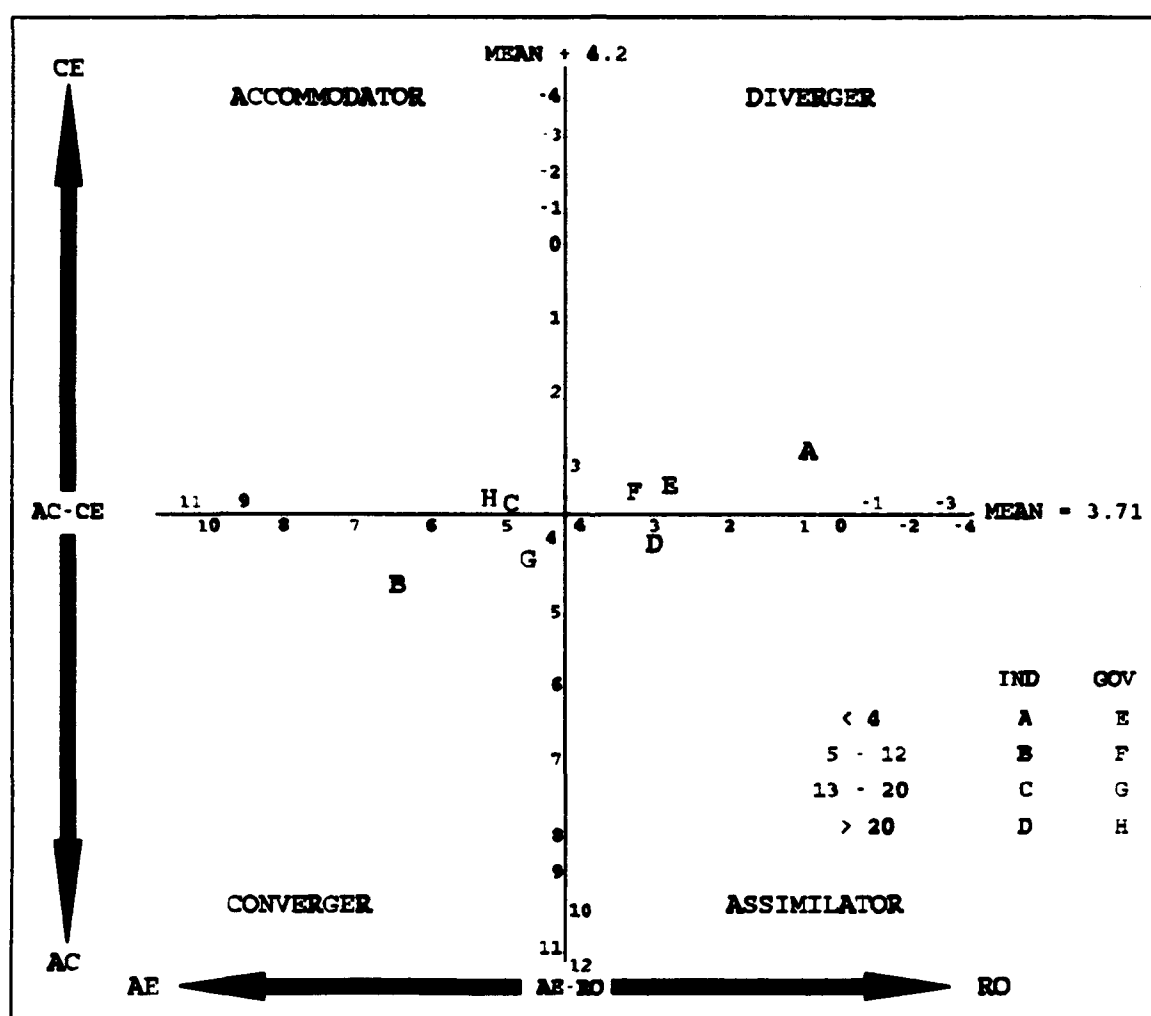


**Figure 29.** GOVERNMENT & INDUSTRY LSI SCORES - CONTRACTING EXPERIENCE

Industry negotiators remain tightly grouped on the AC-CE dimension after achieving more than five years experience. They fluctuate on the AE-RO learning dimension. They prefer activity until they reach ten years of experience. At this time their preference moves back to reflection. See section C.4 for a discussion of this observation.

## 5. Negotiation Experience

The LSI survey contained six possible levels of negotiation experience for the respondent to choose from. This subsection consolidates the six groups into four, to allow for better identification of learning style preferences or trends. Groups are now less than four, five through 12, 13 through 20, and greater than 20 years negotiation experience. Figure 30



**Figure 30.** GOVERNMENT & INDUSTRY LSI SCORES - NEGOTIATION EXPERIENCE

provides an illustration of LSI scores by negotiation experience.

The most noticeable difference between the two groups of negotiators concerns their preference on the active experimentation/reflective observation (AE-RO) learning dimension. Government negotiators grow more active at each level. See section B.6. for a discussion regarding this trait. Industry negotiators are active through twenty years of negotiation experience, but begin to shift away from this preference at the thirteen year point. Possibilities for this were discussed in section C.4.

Both Government and Industry negotiators with less than four years experience are Divergers. This observation is consistent with findings concerning experience, age, and education throughout this study.

Government negotiators with five through 12 years of negotiation experience are Divergers while, Industry negotiators are strongly entrenched within the Converger learning style quadrant. This is plausible because Industry personnel must make decisions that exploit opportunity to be successful, while the Government negotiator is concerned about doing the proper thing by being careful, patient and objective. Industry negotiators are more prone to take chances while Government negotiators are risk adverse at this level.

At the 13 through 20 year level of experience the Government negotiator becomes a Converger while the Industry

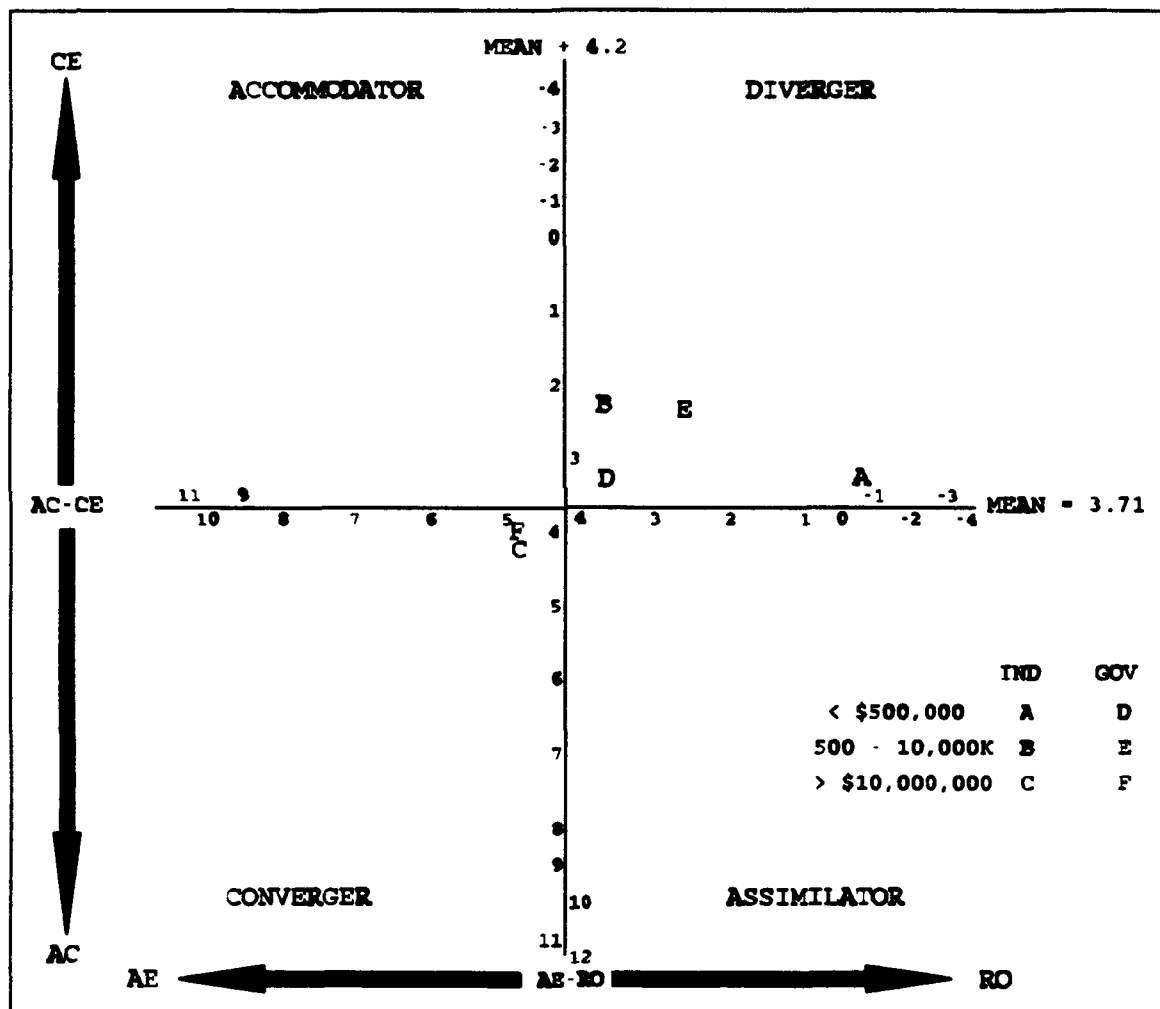
negotiator shifts to the Accommodator learning style. Both are almost equal on the active/reflective (AE-RO) learning dimension. They have a slight difference on the abstract/concrete (AC-CE) learning dimension. The Industry negotiator is probably well entrenched in his position within the firm by this time and is more likely to take chances, and act on feelings and intuition from previous experiences. They will by utilizing methods that worked in the past and are more concerned with adapting to immediate circumstances. The Government negotiator has probably earned a warrant for a higher level of negotiation authority by the time they achieve this level of experience. They are more likely to be adept at analyzing and solving complicated problems, and making decisions.

When the level of experience reaches over 20 years the Government negotiator becomes an Accommodator and the Industry negotiator becomes an Assimilator. Industry negotiators with this level of experience probably occupy very important positions of responsibility within their organization (see section C.4.). This requires traits similar to those of this learning style. Thinking, planning, patience, and objectivity are important when determining the course of action.

Government negotiators with twenty or more years of negotiation experience are entrenched within the Federal bureaucracy. They are usually secure in their position so they can afford to become more people oriented and take more risk.

## 6. Negotiation Authority

Because so few of the Government and Industry LSI survey respondents fell within the boundaries of several categories, the responses were consolidated into three categories. They are less than \$500,000, \$500,000 through \$10 million, and \$10 million or more negotiation authority. This still leaves a small sample size (8) for the Industry



**Figure 31.** GOVERNMENT & INDUSTRY LSI SCORES - NEGOTIATION AUTHORITY

million, and \$10 million or more negotiation authority. This still leaves a small sample size (8) for the Industry

negotiator group with below \$500,000 negotiation in comparison to the Government (127) group. The LSI survey scores are illustrated in Figure 31.

All three of the negotiation authority categories indicate that Government and Industry negotiators have similar learning styles. They remain Divergers until they achieve authority to negotiate contracts for greater than \$10 million. At this time they become Convergers. As discussed earlier in this thesis, individuals with this amount of authority are most likely to be older, have more contracting and negotiation experience, and possess, at a minimum, a Master's Degree.

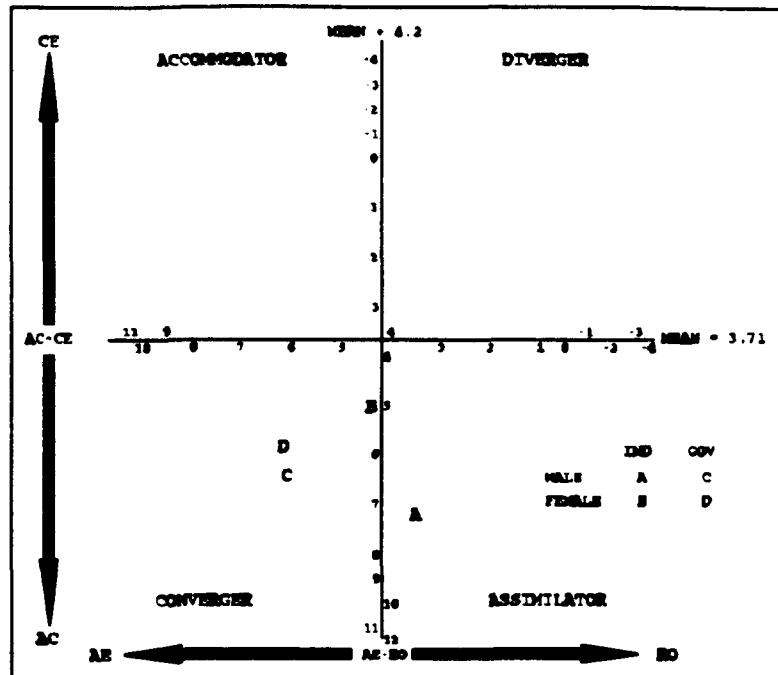
#### **7. Miscellaneous Comparisons & Summary**

There are numerous possible combinations that can be used to examine the 626 LSI survey responses received from both Government and Industry negotiators. This section will examine negotiation preferences of the Government and Industry negotiator by creating two more combinations of the most common survey responses from the different demographic information requested on the LSI survey. All Government negotiators (PCO, ACO, and TCO) are included in the Government LSI scores. The two LSI Grids will provide a snapshot of two of the many possible ways to review the data collected by this research.

Figure 32 shows the LSI scores for Government and Industry contract negotiators in age group 31-40 by gender, for those



who have achieve and/or obtained at least: (1) a Master's Degree or better, (2) over \$10 million in negotiation authority, (3) six or more years of contracting experience, and (4) five or more years negotiation experience.



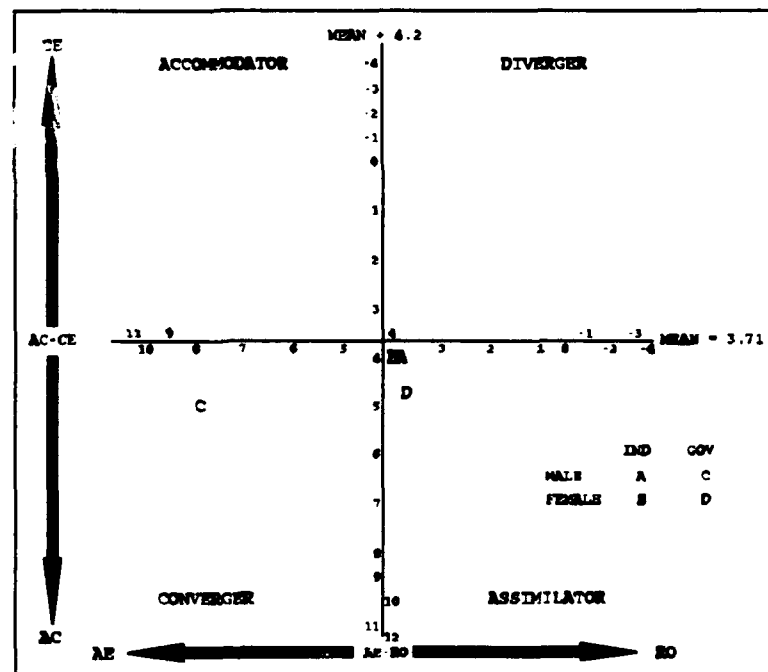
**Figure 32.** GOVERNMENT & INDUSTRY LSI SCORES - AGE 31-40

The male Industry negotiator is an Assimilator and the Female is a Converger. Both the male and female Government negotiators are Convergers. Both Industry male and Government male negotiators show a much stronger bias for abstract conceptualization. The location of the male Industry negotiator is consistent with the finding discussed in the various subsections of section C. Industry negotiators with Master's or Doctorate Degrees were found to be Assimilators, as were those that had over twenty years of contracting or negotiation experience. These traits, when combined with others, influence the location of the particular learning style. The female Industry negotiator falls within the

Accommodator trait when reviewed without other demographic data (see Section C.2.). When combined with the above mentioned traits, they become Convergents. They have only a slight preference for activity.

Government negotiators also demonstrate the traits discussed in the subsections of section B. Those with Master's or Doctorate Degrees were determined to be strong Convergents, as were negotiators with over \$10 million in negotiation authority. The trends identified in these groups seem to have an overriding affect on the type of learning style of this particular categorization of negotiator.

The second miscellaneous grouping cited in Figure 33 shows the location of the LSI scores for both Government and Industry contract negotiators, in age group 41-50 and by gender, on the Kolb LSI Grid. These negotiators have



**Figure 33.** INDUSTRY & GOVERNMENT LSI SCORE - AGE 41-50

achieved: (1) a Master's Degree or better, (2) 10 years or more contracting experience, (3) 12 years or more negotiation

experience, and (4) have greater than \$10 million in negotiation authority.

This categorization of Government and Industry negotiators demonstrates the change in Learning styles as the negotiator ages and gains experience. They have the same education and negotiation authority criteria as those depicted in Figure 32. All but the Government male negotiator fall within the Assimilator quadrant. All four groups become less oriented towards abstract conceptualization. It is difficult to determine why a particular group moves without analyzing each of the different demographic criteria that makes up the group.

These two Figures provide a clear illustration of the changes in learning style that occur with additional education, experience, and age. All of the different factors influence the learning style in different ways. The most noticeable trends that influence the learning styles of the negotiators were discussed previously in this section.

#### **E. SUMMARY**

This chapter presented and analyzed the Learning Style Inventory survey responses presented in Chapters IV and V. First the learning styles of Government negotiators were examined. Differences between the PCO, ACO, and TCO were discussed. Next, the learning styles of Industry negotiators were examined. Finally, the learning styles of both Government and Industry negotiators were plotted on a LSI Grid which was

tabulated by combining the LSI survey responses of the two groups of negotiators. This allowed for a comparison of the predominant learning styles and facilitated the identification of trends, similarities, and differences between the two groups of negotiators. The next chapter will present the major conclusions and recommendations based on the research results.

## **VII. CONCLUSIONS AND RECOMMENDATIONS**

### **A. INTRODUCTION**

As asserted at the beginning of this thesis, the art of negotiations is very complex and dynamic. To be effective the negotiator must have many talents. The skill level of the negotiator ultimately determines how successful they will be. Each participant in a negotiation is intent on convincing the other party to accede to their demands. Any disparity in the intellectual ability, knowledge, skill, and preparation of either the negotiators can ultimately affect the outcome of the evolution (Eisen,1983:1). Therefore, it is important to understand the methods in which the negotiator learns. Any method that can be used to determine how to better prepare the negotiator should prove beneficial to the profession. Accordingly, this thesis examined learning styles of both Government and Industry contract negotiators using the Kolb Learning Style Inventory. Specifically, a survey was used to determine if there were any predominant learning styles or trends that could be identified that can be noted for use in the professional development of negotiators.

This chapter presents the major conclusions and recommendations based on the research results presented in Chapters IV through VI. In addition, this chapter will provide

answers to the research questions presented in Chapter I and will make recommendations on how the design of the research could be improved. This chapter will conclude with suggested areas for further research.

## **B. CONCLUSIONS**

### **1. Conclusion #1**

Negotiators become more abstract and active until they reach age 51, at which time they digress towards concrete and reflective learning skills.

Both Government and Industry negotiators become stronger users of thinking skills as they age. This is primarily the results of education and experience. They become Convergers in the Kolb Learning Style. They prefer the sensible employment of concepts and ideologies, prefer using hypothetical-deductive reasoning, and are good at defining and solving problems, and at making decisions (Kolb, 1976:5). Convergers are generally not concerned with the feelings of others.

Both Government and Industry negotiators become more concrete and reflective as they pass age fifty. They become Divergers. Their strengths are in solving problems, understanding people, listening with an open mind, being sensitive to peoples' feelings, and viewing problems from many perspectives (Kolb, 1976:5).

## **2. Conclusion #2**

Negotiators become more abstract as the level of education increases.

Kolb commented in his original research that the abstract learning trait increased through the Master's Degree level (Kolb, 1976:25). This observation was validated by this research. All levels of education except for High School indicated a preference for abstract learning traits. There was a slight reversal in the bias for abstract learning traits by Industry negotiators, however they remained abstract. Kolb's research finding was based on the examination of business students. The Industry trend is probably due to the high number of negotiators possessing other than business related educations.

## **3. Conclusion #3**

Male negotiators favor abstract skills while female negotiators favor concrete learning traits.

Kolb commented in his original research that women tend to favor Concrete Experience while men favor Abstract Conceptualization (Kolb, 1976:24). This research validates the findings of Kolb. Females indicated a much stronger preference for concrete learning traits on their LSI survey scores. Sensitivity to other peoples' feelings and values, listening with an open mind, and an intuitive, artistic approach are key elements of this learning trait.

#### **4. Conclusion #4**

As Government negotiation and contracting experience of Government negotiators increases, so does the preference for activity and abstract learning traits.

As experience is gained in both negotiation and contracting, the Government negotiator moves towards the learning style traits of the Converger. They become results oriented by taking action based upon logical analysis of the situation at hand.

#### **5. Conclusion #5**

As Industry negotiators attain over ten years experience, they reverse their learning style bias from active to reflective.

Industry negotiators become less Convergent and more Assimilative as they gain over ten years of experience. They display more emphasis on being patient, objective, and careful. The Assimilator Learning Style is probably the most characteristic of the type of learning style necessary at the mid-experience level within private Industry, due to the criticality of the position. Industry contract shops are not large units. The negotiator does not usually have a large staff of other negotiators to rely on for different viewpoints or advice like a Government contracting entity. Usually, there are no more than two or three individuals that handle the firm's negotiations. Therefore, the Assimilator learning style



is very characteristic of what an independent thinker would mimic and is identified by Kolb as being the predominant learning style of people with technical backgrounds. As discussed earlier, many Industry negotiators have technical experience and backgrounds.

#### **6. Conclusion #6**

As negotiation authority increases, so does the preference for favoring abstract and active learning traits.

Negotiators with significant contract negotiation authority are more likely to have strong preferences for abstract conceptualization and active experimentation learning traits. They are the individuals that make decisions and handle the significant negotiations. They are usually more experienced, older, and have an advanced education. Authority is earned by knowledge, action, responsibility, and results. Negotiators with authority for lower dollar thresholds are usually Divergers. Their learning traits are similar to those possessing the least amount of experience and no college education.

#### **7. Conclusion #7**

Negotiators with minimal negotiation or contracting experience, low negotiation authority, and less than college educations favor concrete and reflective learning traits.

The Diverger learning style was distinguished by Kolb as being identified with humanities and liberal arts backgrounds

such as undergraduate History, English, Political Science, and Psychology Majors. All categories of Government and Industry negotiators examined in this research (the youngest, least experienced or educated, least negotiation authority) started as Divergers and progressed to other learning styles. Watching, listening, feeling, sensing, avoiding risk and decision making are the predominant characteristics of this type E learner.

#### **8. Conclusion #8**

The profession of contract negotiation demands strengths in abstract conceptualization which tend to grow more pronounced over time.

The negotiator operates in a very complex environment. Both Industry and Government negotiators have numerous complex issues to master. Business decisions require astute analysis of possible outcomes and clear understanding of the various rules and statutes that can influence the outcome of the negotiation evolution.

Today's practitioner of contracts management cannot always make adequate decisions based on experiences or hunches alone. The dynamic and complex environment surrounding the profession today makes this type of decision making outdated. Contracting professionals, acting as the businessmen they are, need to make decisions based on understanding, and with knowledge of how the variables which make up the contracting process interact. Not only must they have the knowledge of this interaction of variables, but there must also be an understanding of why the variables interact. With such knowledge, contracting officials can better predict the outcome of their decisions. (Ober, 1988:95)

Thinking skills are a must in the business today. In the post Defense Acquisition Workforce Improvement Act workforce, the emphasis will be even more pronounced.

### **C. RECOMMENDATIONS**

#### **1. Recommendation #1**

The Kolb Learning Style Inventory can be used to account for learning style preferences of contract negotiators at different stages of their careers, and can be used to plan internal training programs, undergraduate, and graduate level courses or programs, to better address the learning peculiarities of the negotiation process.

This thesis has measured the particular learning styles of both Government or Industry contract negotiators at different levels of their career. Kolb's learning theory can be used to determine how oriented the negotiator is towards abstract or concrete traits or active and reflective traits. This thesis provided data concerning learning styles of the individuals for different factors. Most of the factors such as age, experience, education, and authority show distinct patterns and trends throughout the different level of possible achievement.

This information can assist educational institutions, professors, or the organization's internal training office to develop and structure learning packages that are designed for particular groups of negotiators, or an individual. Once data

are collected on the cognitive style of an individual or group, then a program can be designed to provide instruction and/or career counseling. This type of preparation could have a profound influence on the future maturation of Government and Industry contract negotiators by affording them greater insight into the negotiation process, and by preparing them better.

Additionally, the Kolb Learning Style Inventory can be very helpful in determining how new personnel think and act, in preparing them for negotiations.

In no other procedure does so much change hands based on the ability of single individuals as it does in negotiation. In Government contracting, particularly, a negotiator can make or break the company. He is the most important profit center the company has. Therefore, he should be chosen, trained, and treated accordingly. (Bennet, 1991:151)

If knowing how an individual thinks, watches, senses and does things can improve methods to prepare and train the negotiator, then it is wise choice to incorporate this mechanism into the training and preparation of Government and Industry negotiators to improve the negotiated outcome.

## **2. Recommendation #2**

Educators should assess their own learning style using the Kolb Learning Style Inventory to better understand their learning style preferences and to facilitate better instruction and learning.

It is important for the educator to understand their learning style preferences. They need to be aware that negotiators with similar learning styles will have an easier time learning. Kolb determined that most managers were on the whole distinguished by very strong active experimentation skills and very weak on reflective observation. He found that business school faculty members had the opposite profile (Kolb, Rubin, McIntyre, 1991:45).

...the learning process can degenerate into a value conflict between the teacher and student, each maintaining that theirs is the right perspective for learning. (Kolb, Rubin, McIntyre, 1991:45)

The educator should tailor his program to address the primary needs of the clientele, however all four learning style traits need to be integrated into the training program.

Several possible methods can be used to meet this need. First is the Kolb experimental learning approach discussed in detail in "Organizational Psychology An Experimental Approach to Organizational Behavior" (Kolb, Rubin, McIntyre, 1991).

This workbook provides games, role plays, and exercises (concrete experiences) that focus on the central concepts in organizational psychology. These simulations provide a common experimental starting point for participants and faculty to explore the relevance of psychological concepts for their work. In traditional management education methods, the conflict between scholar and practitioner learning style is exaggerated because the material to be taught is filtered through the learning style of faculty members in their lectures or presentations and analysis of cases. Students are "one down" in their own analysis because the data are secondhand and already biased. In the experimental learning approach, this filtering process does not take place because both teacher and student are observers of immediate experiences which they both interpret according to their own learning style. In this

approach to learning, the teachers' role is that of facilitator of a learning process that is basically self directed. (Kolb, Rubin, McIntyre, 1991:46)

Another method that can be used by educators is the "4MAT System" (McCarthy 1987). This method addresses how to enhance teaching effectiveness by teaching to each of Kolb's four learning quadrants.

McCarthy combined the Kolb learning theory with other learning theories to develop the 4MAT learning system. The 4MAT learning system is based on the supposition that learning occurs best by passing through the four quadrants of the learning cycle. In this cycle, immediate experience creates a need for learning, which transfers to reflective observation of the experience. Reflective observation is followed by the introduction of concepts to integrate the immediate experience into what is known. After integration, testing is induced and, because this action results in new experiences, the cycle is repeated. The cycle can be thought of as answering the various questions associated with "Why?", "What?", "How?", and "What if?". (Harb, Durrant, Terry, 1993:72)

The decision to use the Learning Style Inventory to measure negotiator's learning preferences is only worthwhile if the commitment is there by educators to properly use the information. Programs to address learning styles must be well thought out and realistic. An educator and individual negotiator's motivation and attitude towards the process will ultimately determine whether the outcome is beneficial.

#### **D. ANSWERS TO RESEARCH QUESTIONS**

##### **1. Subsidiary Questions**

**a. What are the essential differences and similarities that can be identified in comparing Government**

**versus Industry negotiators using the Learning Styles Inventory (LSI) theory?**

There are no differences when comparing learning styles by age. Both become more abstract and active (Converger) until they pass age 51, at which time they become reflective and concrete (Diverger). When reviewed by gender, both groups of male negotiators favor the abstract and active (Converger) traits while female negotiators favor the concrete (Government-Accommodator, Industry-Diverger) learning trait. Both groups of negotiators start as Divergers (High School) and become more active and abstract (Converger) as education increases. However, Industry negotiators become more reflective (Assimilator) from the Master's through Doctorate Degree level.

Both groups of negotiators become increasingly more abstract and active (Converger) as they gain experience, however the Industry negotiator becomes oriented towards reflection (Assimilator) after approximately 10 years, and the Government negotiator becomes more concrete (Accommodator) after 20 years of experience.

Government and Industry negotiators with low limits of negotiation authority are Divergers. Negotiators with high limits of authority (over \$10 million) are Convergents.

**b. What are the essential differences and similarities that can be identified in comparing Government**

**Procuring Contracting Officers (PCOs) versus Government Administrative Contracting Officers (ACOs) using the Learning Style Inventory. (LSI)?**

When the entire Government survey response group was reviewed by position only, the PCOs were determined to be Assimilators and the ACOs were determined to be Accommodators. The two different positions were also reviewed by combining several of the different demographic categories. In all cases, the significant difference was that PCOs were oriented towards abstract learning traits while the ACO preferred concrete experience. Differences on the Active - Reflective learning dimension were dependent upon the demographic category included in the analysis. PCOs are more likely to be Convergers or Assimilators and ACOs are more likely to be Accommodators or Divergers.

**c. What are the essential differences and similarities that can be identified due to educational background in comparing contract negotiators using the Learning Style Inventory (LSI)?**

Negotiators with less than a college education are very strongly oriented towards reflective and concrete (Diverger) learning traits. As the level of education increases, so does the negotiators preference for the abstract conceptualization and active experimentation learning trait. Government negotiators become increasingly more biased for the Converger



learning style as education increases. Although Industry negotiator's active trait increases as they gain education, it remains slightly less prevalent than the reflective trait. As their education increases, they become Divergers with an ever decreasing preference for reflective observation.

**d. What are the essential differences and similarities that can be identified in comparing Military Contracting Officers versus Government Civil Service 1102 series contract negotiators using the Learning Style Inventory?**

There were an inadequate number of responses (9) received from Military contracting officers to adequately investigate learning style differences between GS1102 series and Military contract negotiators.

## **2. Primary Question**

**a. What are the predominant Learning Styles of Government contract negotiators and Industry contract negotiators?**

The predominant traits of the contract negotiator in both Government and Industry consist of over 10 years contracting and negotiation experience, a Bachelor's Degree level of education or better, and unlimited contracting authority. Industry negotiators are primarily Assimilators. Government Procuring Contracting Officers are primarily

Convergers. Government Administrative Contracting Officers are primarily Accommodators. Different experience level, education, age, authority, and gender can cause a variance from these group norms when the negotiator is looked at individually.

## **E. RECOMMENDATIONS FOR FURTHER RESEARCH**

**1. The type of undergraduate and graduate education of Industry and Government negotiators should be reviewed to determine if undergraduate majors affect learning styles.**

The researcher did not ask survey respondents to provide information concerning their undergraduate and graduate degree. This information will facilitate better analysis of negotiators learning styles by education, the differences between Industry and Government negotiators due to education, and validate the comment of this research that presumed a high likelihood of technical degrees by Industry negotiators.

**2. The Kolb Learning Style Inventory should be used to measure differences in Learning Styles of negotiators pursuing advanced degrees, before commencing the program and upon completion.**

This research examined only negotiators actively engaged in the business. It did not examine potential negotiators in Contracting focused programs to determine if

training could mimic the trends discovered in the research. The research could compare students attending both the Naval Postgraduate School, and the Air Force Institute of Technology.

**3. The Kolb Learning Style Inventory should be used to measure Learning Styles of the Military contract negotiator to facilitate a comparison between Government Civil Servants.**

This effort could prove beneficial to programs that deal primarily with the advanced training of Military procurement specialists.

**4. The 4MAT and Kolb learning theories could be used to evaluate the training program of a major contracting activity to determine if the theories are practical for large and active organizations.**

What is needed is an investigation of the feasibility and practicality of instituting learning theory in a large contracting organization and how this information could be used to better enhance the workforce.

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